

AD-A084 133

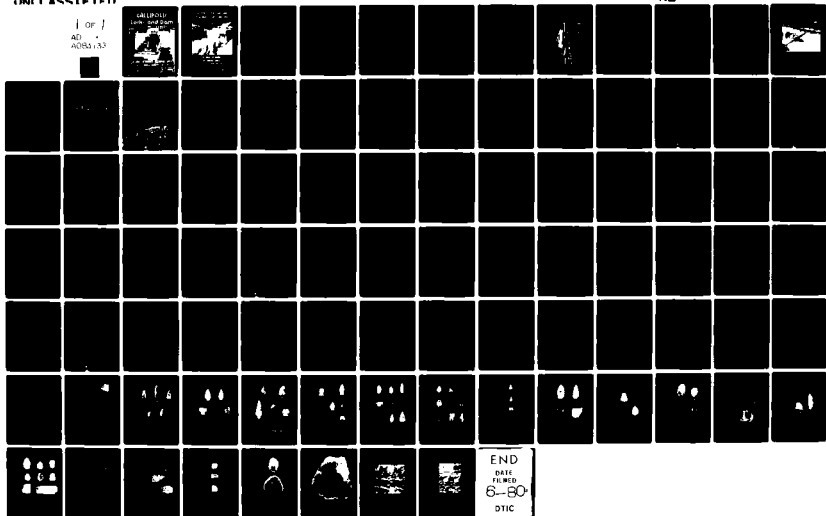
CORPS OF ENGINEERS HUNTINGTON WV HUNTINGTON DISTRICT  
GALLIPOLIS LOCKS AND DAM REPLACEMENT STUDY, OHIO RIVER. CULTURA--ETC(U)  
APR 78

F/G 5/6

UNCLASSIFIED

NL

1 of 1  
AD  
A084 133



END  
DATE  
FILMED  
6-80  
DTIC

ORIGINAL CONTAINS COLOR PLATES: ALL  
REPRODUCTIONS WILL BE IN BLACK AND WHITE

# GALLIPOLIS <sup>(A)</sup>

## Locks and Dam



OHIO RIVER

LEVEL #

AD A 084133

DTIC  
ECTE  
MAY 8 1980

### CULTURAL RESOURCES RECONNAISSANCE

PHASE 1, ADVANCED ENGINEERING AND DESIGN

HUNTINGTON DISTRICT  
CORPS OF ENGINEERS  
APRIL 1978

This document has been approved  
for public release and sale; its  
distribution is unlimited.

FILE COPY

# **GALLIPOLIS LOCKS AND DAM REPLACEMENT STUDY, OHIO RIVER.**



## **CULTURAL RESOURCES RECONNAISSANCE.**

**PHASE 1, ADVANCED ENGINEERING AND DESIGN.**

ORIGINAL CONTAINS COLOR PLATES: ALL DOG  
REPRODUCTIONS WILL BE IN BLACK AND WHITE

HUNTINGTON DISTRICT  
CORPS OF ENGINEERS

APR 1978

44174

## Table of Contents

	Page
Introduction.....	1
The Flood Plain.....	3
Historical Resources.....	5
Archaeological Resources.....	9
The Sites.....	11
The Artifacts.....	17
Debitage.....	20
Utilized Flakes.....	20
Retouched Flakes.....	20
Projectile Points.....	24
Drills.....	35
Hafted Scrapers.....	35
Bifaces.....	35
Unifaces.....	41
Picks.....	42
Axes.....	42
Celts.....	42
Hammerstones.....	42
Metate.....	42
Pottery.....	43
The Upland Sites.....	46
Mud Run Tributary.....	46
Daves Run.....	46
Summary.....	48
Recommendations.....	53
References.....	55

## Figures

	Page
Figure 1. A map showing soil series in project area.....	4
Figure 2. Lock and Dam No. 26.....	8
Figure 3. Map showing the approximate location of archeological sites.....	10
Figure 4. The topology of a flake and the placement of working edges.....	22

1

Accession For MHC 6.10.1 DEC 1982 Unannounced Identification	By <i>[Signature]</i>	Distribution <i>[Signature]</i>	Availability Codes Avail and/or special <div style="text-align: center; font-size: 2em; font-weight: bold;">A</div>
--	--------------------------	------------------------------------	--

## Tables

## Page

Table 1.	Vegetation cover type.....	5
Table 2.	Distribution of total artifacts by site.....	11
Table 3.	Distribution of chert types by site.....	18
Table 4.	Distribution of artifacts by chert type.....	19
Table 5.	Distribution of artifact types.....	21
Table 6.	Size of retouched and utilized flakes.....	23
Table 7.	Distribution of projectile points by period and chert types.....	37
Table 8.	Distribution of projectile points by site.....	38
Table 9.	Distribution of bifaces by sites.....	40
Table 10.	Distribution of artifact types by sites on bottom.....	44
Table 11.	Distribution of artifact types by sites on terrace.....	45
Table 12.	Distribution of sites by soil type.....	49
Table 13.	Distribution of archeological sites by soil type for the West Virginia side of the Ohio River.....	50

## Plates

Plate 1.	Utilized flakes and retouched flakes showing the placement of the working edges.
Plate 2.	Projectile point Types 1 - 4.
Plate 3.	Projectile point Type 5.....
Plate 4.	Projectile point Types 6 - 9.
Plate 5.	Projectile point Types 10 - 12.
Plate 6.	Projectile point Types 13 - 20.
Plate 7.	Projectile point Types 21 - 29.
Plate 8.	Drills and a hafted scraper.
Plate 9.	Biface Type 1.
Plate 10.	Biface Type 2.
Plate 11.	Biface Types 3 - 4.
Plate 12.	Biface Types 5 - 7.
Plate 13.	Biface Type 8.
Plate 14.	Unifaces.
Plate 15.	Picks.
Plate 16.	Axe Types 1- 3.
Plate 17.	Celts.
Plate 18.	Hammerstones.
Plate 19.	Metate.
Plate 20.	Stereo B/W photograph of project area.
Plate 21.	Stereo B/W photograph of project area.

## INTRODUCTION

The Gallipolis Locks and Dam is located on the Ohio River at river mile 279.2, 14.5 miles downstream from the confluence of the Ohio and the Kanawha Rivers. The project was placed in operation in August 1937 and was constructed under the authority of the River and Harbor Act of 1935. The project is a non-navigable, high-lift gated dam with two parallel lock chambers. The main lock is 600 feet by 110 feet, and the auxiliary lock is 360 feet by 110 feet. The normal pool elevation is 538.0 feet msl, and extends 41.7 miles to Racine Dam on the Ohio River and 44.6 miles to the Winfield Dam on the Kanawha River.

The main problem with the present Gallipolis project is the small size of the lock chambers. When Locks and Dams 50 and 51 are replaced by Smithland Locks and Dam (scheduled for completion in 1979) on the lower Ohio River, Gallipolis will be the only structure from near the origin at Montgomery Locks and Dam to the mouth with a 600-foot main lock chamber. This small lock chamber causes long processing times and delays since many tows must break into two components. Thus, with increasing traffic and increases in tow sizes, the Gallipolis Locks have become a bottleneck to the Ohio River system.

Gallipolis has also been troublesome to navigators on the Ohio River due to the location of the locks in a river bend, the orientation of the approach channels, the velocity currents, and the design of the approach walls. The location of the locks on the inside of a river bend and the provision of a carved landward guide wall in the upstream approach make maneuvering a tow into the locks without being caught by the current and being pulled toward the dam extremely difficult. The lack of adequate guide or guardwalls to assist tows while entering or exiting the auxiliary chamber, in addition to its small size, has contributed to the low utilization of this small chamber for locking tows.

Because of these problems, studies have been undertaken to consider major modifications and/or replacement of the Gallipolis project. A canal plan was recommended in the feasibility report (U. S. Army Corps of Engineers, Huntington District, 1974) and was the basis for the Phase I Congressional authorization. The canal is proposed to be constructed across a bend in the river in which the existing dam is located. It will bypass the present dam and locks on the left or West Virginia side. The canal would be about 1.7 miles in length. The canal would provide a depth of 18 feet below the normal upper pool which would remain unchanged at 580.0 feet msl. Alternatives being considered to the single lock in the new canal include: 1) A single 1,200-foot lock in a canal and rehabilitation of the existing 600-foot lock, 2) A

1,200-foot lock and a 600-foot lock in a canal, and 3) dual 1,200-foot locks in a canal.

The proposed project site on the flood plain covers approximately 535 acres including the canal and lock(s) as well as an area for possible disposal of material excavated from the canal. This potential disposal area is located on land adjacent to the existing project which is generally used for agriculture. This site extends from about river mile 277 to mile 280.5 along the Ohio River which forms the western boundary. The area is bounded on the east by the Baltimore and Ohio Railroad and West Virginia Route 2 and in the south by farm properties and the Goodyear Rubber Company plant.

Additional studies were undertaken for alternate schemes for the disposal areas. Under consideration are upland sites located near the project area. Two potential sites are being investigated. These are Mud Run Tributary, an unnamed tributary which joins Mud Run about one-half mile east of West Virginia Route 2 and Daves Run, located three miles north of the mouth of Sixteenmile Creek.

Through Public Law 89-655, Public Law 93-291 and Executive Order 11593, the Department of the Army is given the responsibility of considering project impacts on cultural resources. In response to this Federal legislation and Executive Order, the Corps of Engineers has published proposed policies and procedures, Identification and Administration of Cultural Resources, in the Federal Register, Volume 40, No. 174, September 8, 1975, which provides guidance for the discharge of responsibilities for identification, preservation, and mitigation of losses of cultural resources associated with water resources developments and programs. The proposed regulation recommends that a Cultural Resource Reconnaissance be initiated during Phase I Advanced Engineering and Design Studies to obtain information for identifying cultural resources that may be affected by the proposed project. Such a reconnaissance includes a literature search and records review plus an on-the-ground surface examination of selected portions of the area to be affected, which is adequate to assess the general nature of the resources probably present and the probable impact of the project.

In April of 1977, such a reconnaissance level survey was initiated for the areas to be effected by the proposed Gallipolis Lock Replacement project. This included the canal site and disposal sites on the flood plain as well as the upland disposal sites. The following report is the result of this survey.

Copies of the Reconnaissance Report are sent to the National Park Service, State Historic Preservation Officer, and the State Archeologist for review and comment.

### THE FLOOD PLAIN

The flood plain on which the proposed project is located is 5,700 feet wide, flanked on the east by steep hills which are 250 to 300 feet high and on the west by the Ohio River. The flood plain is defined by seven soil series which have developed on thick alluvial deposits which are the glacial outwash deposited during the last stages of the Wisconsin glaciation (Soil Conservation Service 1961: 52-53, 57-61, 63, 69-70). Four of these seven soil series are found on first bottoms and three occur on terraces. Since these soil series form two morphological features in the proposed project area, these features will hereafter be referred to as the bottom and the terrace (Figure 1). Selected portions of the flood plain and adjacent bluffs are shown in B/W stereo photography (Plates 20, 21).

The bottom lies at elevation 540 feet msl and gradually slopes in part to 560 feet msl. Soils contained on the bottom include four series. These are Ashton, Lindside, Melvin and Moshannon. The soils of the Ashton series are a silt loam found on high bottoms in areas that are normally quite long and narrow. These soils are well drained and are, for the most part, level or gently sloping. In the slightly depressed areas, surrounded by Ashton series soils, are the soils of the Lindside series. These soils are a silt loam which are moderately well drained. In the Melvin series soils water is often ponded. These soils are depressed areas of silt loam or silty clay loam, are poorly drained and are subject to frequent flooding. Cutting across the bottom in the project area is Flatfoot Creek. It flows out of the hills east of Ohio River mile 279.5. As it enters the flood plain, it flows northwest, west and then southwest where it flows into the Ohio River. The soils surrounding the creek are the Moshannon series soils which occur in narrow areas and are typical of small streams which flow into the Ohio River.

The topography of the terrace is similar to that of the bottom. The terrace lies at elevation 560 feet sloping in part to 580 feet msl. The soils on the terrace, also comparable to those on the bottom, include the Wheeling, Sciotoville and Ginat Series. The silt loam of the Wheeling soils are well drained and nearly level. Occurring in the slightly depressed areas are the moderately well drained Sciotoville series soils. The poorly drained soils found on the terrace are those soils of the Ginat series. They lie parallel to the Ohio River and occur in level or depressed areas which are usually long and narrow.



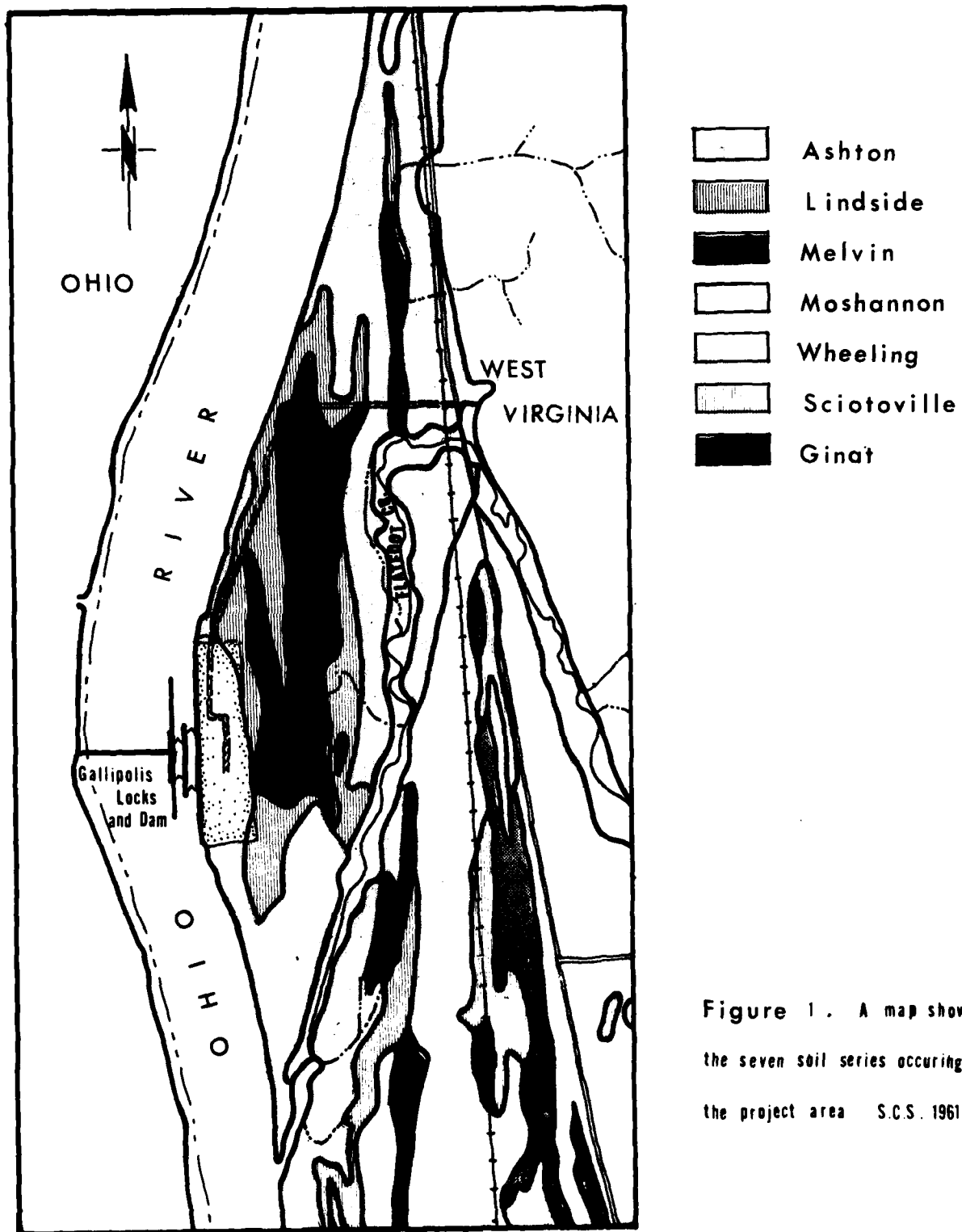


Figure 1. A map showing the seven soil series occurring in the project area S.C.S. 1961

The project is located within the Mixed Mesophytic Forest Region of the Eastern Deciduous Forest Biome. The area which is not being used for cultivation or covered by physical features is classified into three fundamental forest types which can further be sub-divided into nine vegetation cover types (Evans 1977: 14). The forest types include those associated with the Ohio Riverbank, the creek or streamside forests associated with Flatfoot Creek and those on the main river flood plain. The nine vegetation covers are given in Table 1. All of the forest types are relatively young and are made up of secondary growth.

TABLE 1  
Vegetation Cover Types At  
Gallipolis Locks and Dam (Evans 1977)

Type	Description	Association
1	Wooded River Flood Plain	Black Cherry - Slippery Elm - Black Locust
2	Wooded Upper Creek Bank	Black Cherry - American Elm - Green Ash - Shagbark Hickory
3	Wooded Lower Creek Bank	Silver Maple - Black Walnut - Pin Oak - American Elm
4	Wooded Upper Creek Bottom	Box Elder - Silver Maple - Black Cherry
5	Wooded Lower Creek Bottom	Silver Maple - Green Ash
6	Wooded River Bank and Flats	Cottonwood - Silver Maple
7	Wooded Swale	Silver Maple - Black Willow
8	Marsh	Grass - Sedge - Rush
9	Shrub Vegetation	Shrub - Sapling - Vine - Perennial Weed

#### Historical Resources

After the French and Indian War, King George III of England granted titles to portions of the Ohio Counties to those soldiers who had served England against the French during that war. In 1772 a party of 11 men organized a party of about 30 men for the purpose of surveying lands in the West. Among these 11 was General Hugh Mercer who was granted a tract of 13,532 acres along the Ohio River, two miles below the mouth of the Kanawha River. This tract, known as Mercer's Bottom, was never settled by Mercer himself but was sold before he entered the Continental Army during the Revolutionary War:

Before entering the army, he (Hugh Mercer) sold his claim to the Mercer bottomlands to Charles Philip Perrin, of England, who appointed John Wickham, Daniel Call and John Gratton, of the City of Richmond, as his attorneys in fact, for the sale of these lands. In 1803, John Fenton Mercer and Charles Fenton Mercer, nephew and grandson of the first claimant, purchased Perrin's claim. The deed was made in England and acknowledged before Charles Reece, Lord High Mayor of the City of London, on the 15th day of October 1803. In the year 1805, Charles Fenton Mercer made Andrew Lewis, son of Colonel Charles Lewis, who fell at Point Pleasant, in 1774, his attorney for the sale of his interest in the lands, and in the following year, John Fenton Mercer appointed Peter Naret, of Gallipolis, Ohio, as his attorney in fact, for the same purpose. These agents had instructions from their principals to sell the bottomlands at ten dollars per acre, but to use their own discretion as to the price of the hill lands. The Beale, Steenbergen, Brown, Wallace, and Hogsett farms were purchased from these gentlemen (Comstock, 1974: 3-4).

Mercer's Bottom remained basically farmland up through the present time. Ohio River charts show that in 1929 the farms belonged to the J. McCollough, W. Kirk, W. Sears, C. Hogsett, P. Steambergen and C. P. Stout families. Kirk is the only surname of these six that has remained on the list of property owners to this date. Photographs taken in 1946 of the project area (U. S. Army Corps of Engineers District, Huntington) show one farm complex and two barns (Figure 2). One of the barns is still standing on site 46Msl4 while the farm complex and the other barn have been torn down.

In the last quarter of the nineteenth century and the first quarter of the twentieth century, the Army Engineers were surveying and planning to canalize the Ohio River. The first dam, Davis Island Lock and Dam, was completed in 1885. By 1901, five more dams were under construction and 32 more were authorized to establish a nine foot channel for navigation down river to Cincinnati.

Lock and Dam Number 26 (Figure 2) was located at Ohio River mile 278.5, 4,000 feet upstream from the present Gallipolis Locks and Dam. It was built between 1907 and 1915 at a cost of \$1,307,000. The lock and dam had an overall length of 772 feet with a 600-foot navigable pass. The dam was a chanoine weir consisting of 11-foot 9-inch wickets and two 91-foot bear traps. The lock, which had rolling gates, was 110 feet wide and 600 feet long with a lift of 7-1/2 feet. Access to the lock which was on the West Virginia side was provided by a paved esplanade at 525 feet msl. On the river bank (560 feet msl) was the powerhouse and two residences.

In 1937, the new Hallipolis Lock and Dam was placed in operation and the Old Lock Number 26 was abandoned. Photographs taken in 1946 show the powerhouse and both residences still standing. Today, however, only the three and a half story powerhouse remains and is used for a storage facility by the Corps of Engineers.



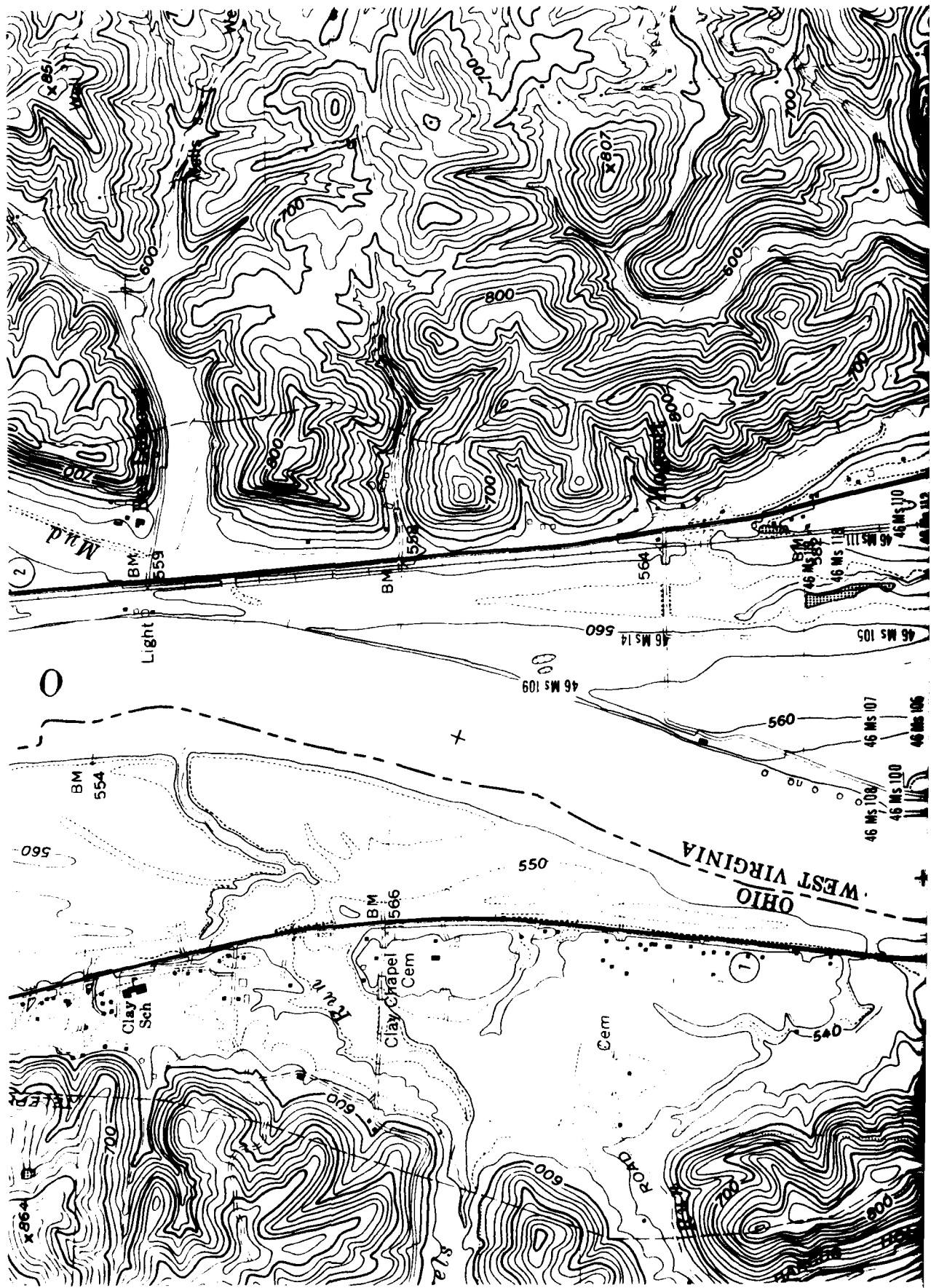
Figure 2. Lock and Dam Number 26. Photograph shows the location of a farmstead and two barns. The pump house remains in the project area today.

### Archaeological Resources

A survey of the project area was accomplished in five days resulting in the recording of 26 archaeological sites and 1,644 pieces of cultural material. A total of eight people were involved in the survey though not more than four were in the field at any given time. Three were professional archaeologists: Robert F. Maslowski, Cheryl A. Smith of the Corps of Engineers and Steve Davis of the West Virginia State Historic Preservation Office. The remaining five were all employees of the Corps of Engineers.

The survey area is divided into cropland (400 acres), pasture (20 acres) and woodland (60 acres). Most of the woodland is located on the low-lying lands adjacent to Flatfoot Creek. Survey conditions varied from site to site and from day to day. The fields in which the sites were located were in various stages of cultivation ranging from fallow, to plowed, to harrowed, to recently planted, to new growth, to pasture. The first three days of the survey were hot, sunny and dry making collecting conditions fair. The remaining two days were cloudy and cold with the ground damp due to light rainfall.

The sites were located by walking through the fields collecting artifacts and debitage. The areas of concentration were noted and recorded as sites. The exact extent of site boundaries were not delineated but rather were approximated due to the fact that light surface scatter was found to cover the majority of the project area. As a result of the survey one previously recorded site was collected, one previously recorded site was redefined and 24 new sites were recorded. The approximate locations of the archeological sites are shown in Figure 3.



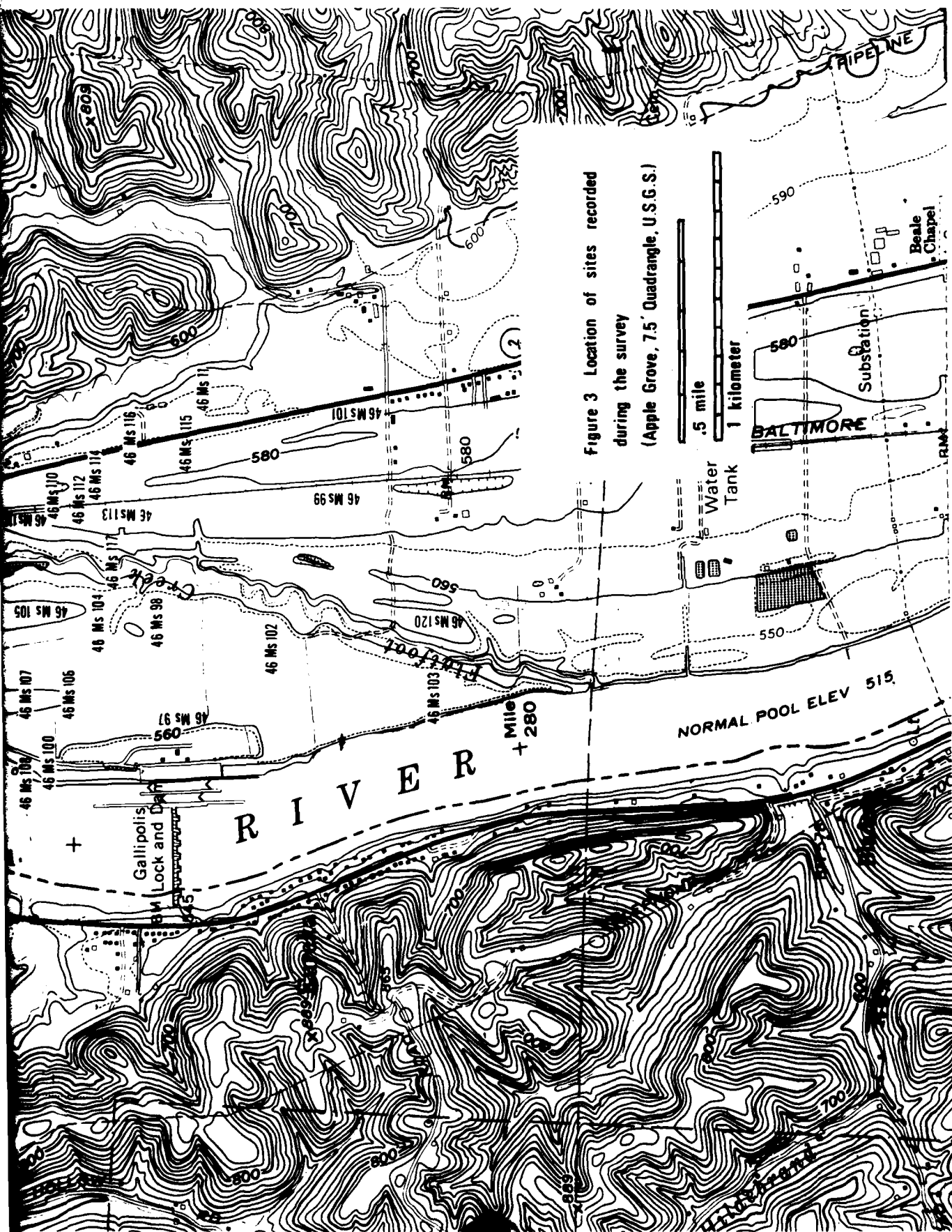


Figure 3 Location of sites recorded during the survey (Apple Grove, 7.5' Quadrangle, U.S.G.S.)



## The Sites

46Ms11 In 1953, Leonard G. Johnson of the West Virginia Antiquities Commission assigned the trinomial number of 46Ms11 to three mounds in the general vicinity of Hogsett, West Virginia. During the Corps of Engineers survey in 1977, this site was redefined. The site 46Ms11 now consists of one mound previously known as Mound A. It is located on the terrace in Wheeling Series soil. The mound is 7.5 to 9.5 meters in diameter and 1.2 to 1.5 meters high. The nearest water resource is Flatfoot Creek, 144 meters to the east and 550 meters to the west. The mound is 1,320 meters east of the Ohio River. No artifacts were recovered from this site.

46Ms14 Originally recorded in 1953 by Leonard G. Johnson, this site was resurveyed in 1974 by Gary Wilkins of the West Virginia Geological Survey, in 1977 by the Huntington District Corps of Engineers and again in 1977 by Jeff Graybill of the West Virginia Geological Survey. The site is located along a low ridge on the bottom in Ashton Series soil. The site is divided by a road that cuts across it and a barn is built on the south end of the site.

At the time of survey the portion north of the road was coarsely plowed, the portion between the road and the barn was still in the previous year's corn and the southern end behind the barn was in new growth of winter wheat. The ground itself was dry and slightly dusty.

In spite of the fair survey conditions, a total of 271 artifacts and debitage material was recovered from this site (Table 2). The diagnostic artifacts range in time from the Middle Archaic to Late Woodland determined by polished and chipped axes, three diagnostic projectile points and one pottery sherd. Jeff Graybill (1977) reported a concentration of Woodland pottery on the southeast corner of the site.

TABLE 2  
Distribution of Total Artifacts by Site

Site	Number	Percent
46Ms14	271	16.49
46Ms97	175	10.65
46Ms98	109	6.63
*46Ms99	153	9.31
46Ms100	93	5.66
*46Ms101	22	1.34
46Ms102	54	3.29

TABLE 2 (cont'd)  
Distribution of Total Artifacts by Site

Site	Number	Percent
46Ms103	9	.55
46Ms104	24	1.46
46Ms105	55	3.35
46Ms106	33	2.01
46Ms107	31	1.89
46Ms108	25	1.52
46Ms109	205	12.48
*46Ms111	97	5.90
*46Ms112	10	.61
*46Ms113	167	10.16
*46Ms114	2	.12
*46Ms115	3	.18
*46Ms116	6	.37
*46Ms117	10	.61
*46Ms118	14	.85
*46Ms119	14	.85
*46Ms120	52	3.17
Scattered	9	.55
Total	1643	100.00

\*Indicates sites located on the terrace

46Ms97 Extending along the eastern and southern edges of the fill from the Gallipolis Locks and Dam is site 46Ms97. Located on the bottom in Ashton, Lindside, and Melvin series soils, a large portion of the site may be covered by fill. The surveyed portion of the site is divided by a fenceline separating the lands of two property owners. The field north of the fence was coarsely plowed while the field south of the fence was harrowed. The ground was dry and slightly dusty.

A total of 176 artifacts and debitage material was recovered from this site. Diagnostic artifacts include grooved axe fragments, a limestone tempered pottery sherd and one projectile point which has been classified as Middle to Late Archaic.

46Ms98 Also on the bottom in Lindside and Ashton Series soils, this site is approximately 120 meters from Flatfoot Creek located to the east and 600 meters from the Ohio River located to the west. At the time of survey the field in which the site is located has been harrowed, but the

ground was dry making survey conditions fair. In addition to 90 fragments and flakes of debitage material 19 artifacts were recovered. The projectile points were both diagnostic, one was Late Archaic and the other Late Adena which would place it in the latter part of the Early Woodland period. Other diagnostic artifacts include one polished and one chipped axe.

46Ms99 Extending along a low ridge on the terrace is site 46Ms99. It is in Wheeling series soil and lies 740 meters east of the Ohio River. The closest water resource is Flatfoot Creek which is 200 meters west of the site. Conditions of survey were good, the field had been planted and the corn was 5 to 7.5 centimeters high. The soil was moist from a recent rainfall.

Artifact recovery resulted in six projectile points, three utilized flakes, three retouched flakes, two bifaces, one uniface and 138 fragments and flakes of debitage material. The diagnostic projectile points were from the Late Archaic period.

46Ms100 Located 60 meters from the east bank of the Ohio River is site 46Ms100. The site is on the bottom in Lindsides Series soil. Survey conditions were fair, the field was plowed and the ground was dry. Ninety-three artifacts and debitage materials were collected. Of five projectile points, four were diagnostic. These identified components date from the Middle Archaic, Middle Woodland and the Late Prehistoric periods.

46Ms101 In Ginat and Wheeling soils, next to West Virginia Route 2 and 1,116 meters from the east bank of the Ohio River is site 46Ms101. The nearest water resource is Flatfoot Creek located 540 meters west of the site and 420 meters east of the site. Conditions at the time of survey were fair. The field was planted and the corn was 5 to 7.5 centimeters high and the ground was moist from a recent light rainfall. A light surface scatter of six artifacts and 16 debitage fragments and flakes were recovered over an area 75 by 530 meters. These artifacts included a possible Late Archaic point.

46Ms102 On a low rise of Ashton Series soils is site 46Ms102. Also a bottom site, it is 430 meters from the bank of the Ohio River with Flatfoot Creek only 60 meters to the east of the site. At the time of survey, the field was harrowed and the ground was dry and slightly dusty. The recovery of artifacts and debitage totaled 54. The only artifact which could be classified as diagnostic is a chipped stone axe indicating an Archaic component.

46Ms103 This site is located on the bottom next to the bank of the Ohio River and near the mouth of Flatfoot Creek. The soil series is Ashton. The field was in pasture at the time of the survey, which

resulted in a low recovery of artifacts. Two artifacts, one of which is an Archaic chipped axe, and seven debitage flakes were recovered from the site and the riverbank.

46Msl04 Site 46Msl04 is in a field on the bottom which is surrounded on three sides by wooded areas. Flatfoot Creek and one of its small branches flow through these areas. The soil series of the site is Ashton. The area of artifact concentration is located approximately 25 meters west of Flatfoot Creek and 636 meters east of the Ohio River. Winter wheat was planted in this field and at the time of survey, it was 15 to 20 centimeters high. Twenty-two debitage flakes, one drill and one biface were recovered over a 168 by 60 meter area.

46Msl05 On a ridge of Ashton series soil, north of site 46Msl04 is site 46Msl05. It is 500 meters east of the Ohio River and 50 meters from a branch of Flatfoot Creek. Survey conditions were poor because of the winter wheat which was 15 to 20 centimeters high. Fifty-four debitage flakes were recovered along with one triangular point.

46Msl06 Site 46Msl06 covers an area of 110 meters by 85 meters of Lindsides series soil and is bisected by a road, ditch and tree line. It is located 275 meters east of the Ohio River. The portion of the site in the field north of the road had been plowed, but the field south of the road had not been turned under from the previous year. The ground was dry and slightly dusty.

Twenty-seven debitage flakes and six artifacts were recovered from the site including one projectile point that has been classified as Late Archaic. Artifacts from a collection belonging to Carol Batten, a local collector, include five hafted scrapers, four bird points, one drill, worked hematite, bifaces, a grooved stone, numerous stemmed, corner notched and side notched points and a hematite celt fragment.

46Msl07 Also on Lindsides soil and north of 46Msl06 is site 46Msl07. It lies 130 meters east of the bank of the Ohio River and the area of surface scatter measures approximately 150 by 75 meters. At the time of survey, the field had been coarsely plowed. Recovery of material resulted in 24 debitage flakes and seven artifacts including one Late Prehistoric triangular point.

46Msl08 Eroding out of the bank of a drainage ditch were 22 debitage flakes and three artifacts including one Middle Woodland pottery sherd. The site is on the bank of the Ohio River in Ashton series soil. The area is presently a lawn making it impossible to determine the actual extent of the site by surface collecting.

46Msl09 Located on the bottom next to the Ohio River is site 46Msl09. It is located on a ridge of Ashton and Lindsides series soils. The field was coarsely plowed at the time of survey. One chipped axe and one possible Morrow Mountain II point were among the 17 artifacts collected, identifying a Middle Archaic component. In addition to the artifacts collected, 258 debitage flakes and fragments were also recovered.

46Msl10 This site is a mound located on the terrace in Wheeling series soil. It is on the western side of the Baltimore and Ohio Railroad tracks, 180 meters east of Flatfoot Creek and 936 meters east of the Ohio River. It is in a fenceline and is presently covered with trees. Originally recorded as part of 46Msl1 (Mound B), it is 7.5 to 9 meters in diameter and 1 to 1.5 meters high. No artifacts were collected from the mound.

46Msl11 Located along the northern end of the terrace in Wheeling series soil is site 46Msl11. It is 860 meters east of the Ohio River and 100 meters east of Flatfoot Creek. The site had been plowed at the time of survey making conditions for collecting good. As a result, 89 debitage flakes and eight artifacts were recovered. None of the artifacts were diagnostic.

46Msl12 In a field on the west side and adjacent to the Baltimore and Ohio Railroad tracks is a plowed down mound. It has an approximate diameter of 25 meters. The soil series is Wheeling and the closest water resource is Flatfoot Creek 120 meters to the west with the Ohio River being 850 meters west. The field had been plowed at the time of survey and material collected from the mound area resulted in three artifacts and seven debitage flakes and fragments.

46Msl13 The field in which site 46Msl12 is located was recorded as site 46Msl13. The surface scatter covers a field measuring 470 by 85 meters which is located on the edge of the terrace in Wheeling series soil. Flatfoot Creek lies 85 meters to the west and the Ohio River is 910 meters west of the site. Survey conditions were good, the field had been plowed and the ground was moist. The recovery of material resulted in 141 debitage flakes and fragments and 26 artifacts. Diagnostic projectile points indicate Early and Late Archaic components as well as Middle and Late Woodland components.

46Msl14 Also in Wheeling series soil and also on the terrace is a second plowed down mound. The mound and the field surrounding it was recorded as 46Msl14. The mound is 1,020 meters east of the Ohio River. Flatfoot Creek lies 215 meters to the west and 230 meters to the east. Survey conditions were poor, the field was in winter wheat which was at the time 30 to 35 centimeters high. The recovery of cultural material resulted in only one debitage flake and one biface.

47Ms115 A small area of the field south of 46Ms114 had been exposed by recent plowing. Two debitage flakes and one utilized flake were recovered from this area. This site is defined as covering an area of about 50 by 50 meters. Located on the terrace, the site is in Sciotoville and Wheeling series soils and is on the "peninsula" formed by Flatfoot Creek which lies 385 meters to the west and 265 meters to the east. The Ohio River is 1,165 meters to the east.

46Ms116 Another small area of surface scatter was exposed by plowing just north of 46Ms115. This site is also on the terrace and also in Wheeling and Sciotoville series soils. Flatfoot Creek lies 216 meters to the east and 324 meters to the west and the Ohio River is 1,128 meters to the west. Four debitage flakes and two worked flakes were recovered from this area.

46Ms117 A small area of light surface scatter was located 768 meters east of the Ohio River along the edge of Flatfoot Creek's flood plain as it flows southwest. Although the site had been harrowed the artifacts did not show up well because of the fairly dry soil. The site is located on the bottom between Flatfoot Creek and the terrace in Ashton Series soil. Cultural material collected resulted in eight debitage flakes and one retouched flake.

46Ms118 Just slightly northeast of 46Ms117 is site 46Ms118. It is an area of light surface scatter between Flatfoot Creek and the terrace. It lies in Ashton series soil, 756 meters east of the Ohio River and 60 meters east of Flatfoot Creek. Six artifacts including one Late Prehistoric projectile point and eight debitage flakes were recovered from this site. The field was harrowed and the ground was dry making collecting conditions fair.

46Ms119 On the bottom slightly southwest of the northernmost part of the terrace is a small knoll which has been recorded as site 46Ms119. It is located in Ashton series soil, 708 meters east of the Ohio River and 36 meters east of Flatfoot Creek. The field had been plowed exposing surface scatter over an area of about 85 to 50 meters. Artifacts recovered included one Middle to Late Woodland projectile point and one utilized flake. An additional 12 debitage flakes were also collected.

46Ms120 230 meters east of the Ohio River and approximately 480 meters northeast of the mouth of Flatfoot Creek is site 46Ms120. The field was being planted at the time of survey, however, conditions for collecting were fair because the ground was dusty. The area of surface scatter covered a low rise of Ashton series soil that measured 60 meters by 275 meters. Flatfoot Creek lies 72 meters west of this rise. The artifacts collected (eight) included one Late Woodland point. Debitage material collected resulted in 44 flakes and fragments.

### The Artifacts

A total of 1,644 artifacts and debitage material was recovered from 24 archaeological sites and scattered surface finds. These remains included 1,641 lithics and three pottery sherds. The lithics were divided into eight chert types and one miscellaneous material category. The chert types were arbitrarily defined as follows:

- I. Kanawha Black Flint. A black grainy flint that includes both pebble and bedded cherts.
- II. Hughes River/Brush Creek Chert. A grainy greenish gray/tan chert. It is generally a bedded chert but occurs in pebble form along the Ohio River.
- III. Flint Ridge Flint. Flint with a high silica content being glossy and translucent on the edges. This type includes a wide range of colors, generally tans, whites and pinks.
- IV. Plum Run/Upper Mercer/Bogs/Zaleski Chert. A black pebble chert that is somewhat glossy and finer grained than Kanawha Black Flint. Quarries of this chert are found in Northern and Central Ohio but specimens are also found as pebble cherts in the river system.
- V. Miscellaneous cherts not identifiable as pebble cherts.
- VI. Gray/tan pebble chert. It is glacial outwash common in gravel deposits along the Ohio River.
- VII. Miscellaneous pebble chert.
- VIII. Gray/green pebble chert with brown cortex.

The majority of the cherts used in the Gallipolis project area were pebble cherts found in abundance along the Ohio River. Distribution of chert types by site is shown in Table 3 and distribution by artifact type is shown in Table 4.

TABLE 3: Distribution of Chert Ty

	I		II		III		IV		
	#	%	#	%	#	%	#	%	#
<b>BOTTOM:</b>									
46Ms14	93	34.4	33	12.2	7	2.6	38	14.1	19
46Ms97	80	46.0	8	4.6	5	2.9	25	14.3	9
46Ms98	43	39.5	12	11.0	6	5.5	14	12.8	6
46Ms100	37	39.8	7	7.5	4	4.3	18	19.3	7
46Ms102	14	25.9	9	16.7	2	3.7	9	16.7	3
46Ms103	1	11.1	0	0.0	0	0.0	3	33.3	0
46Ms104	11	45.8	3	12.5	0	0.0	6	25.0	3
46Ms105	23	41.8	3	5.5	0	0.0	6	10.9	9
46Ms106	8	23.3	9	27.3	1	3.0	4	12.1	9
46Ms107	9	29.0	2	6.5	0	0.0	2	6.5	2
46Ms108	8	33.3	5	20.8	0	0.0	5	20.8	3
46Ms109	97	47.3	17	8.3	3	1.5	31	15.1	17
46Ms117	7	70.0	1	10.0	0	0.0	1	10.0	1
46Ms118	3	21.5	1	7.1	0	0.0	4	28.6	1
46Ms119	6	42.8	1	7.1	0	0.0	3	21.5	0
46Ms120	16	30.8	10	19.2	0	0.0	13	25.0	1
Surface Scatter	2	22.2	1	11.1	1	11.1	2	22.2	2
<b>SUB-TOTAL</b>	<b>458</b>	<b>38.8</b>	<b>122</b>	<b>10.3</b>	<b>29</b>	<b>2.5</b>	<b>184</b>	<b>15.6</b>	<b>92</b>
<b>TERRACE:</b>									
46Ms99	71	46.4	16	10.4	2	1.3	23	15.0	20
46Ms101	3	13.6	3	13.6	1	4.6	3	13.6	4
46Ms111	50	51.6	14	14.9	1	1.0	10	10.3	5
46Ms112	4	40.0	1	10.0	0	0.0	2	20.0	0
46Ms113	67	40.1	16	9.6	5	3.0	37	22.1	12
46Ms114	1	50.0	0	0.0	0	0.0	0	0.0	0
46Ms115	2	66.7	0	0.0	0	0.0	0	0.0	1
46Ms116	3	50.0	1	16.7	0	0.0	2	33.3	0
<b>SUB-TOTAL</b>	<b>201</b>	<b>43.7</b>	<b>51</b>	<b>11.1</b>	<b>9</b>	<b>2.0</b>	<b>77</b>	<b>16.7</b>	<b>42</b>
<b>TOTAL</b>	<b>659</b>	<b>40.2</b>	<b>173</b>	<b>10.5</b>	<b>38</b>	<b>2.3</b>	<b>261</b>	<b>15.9</b>	<b>134</b>



# st Types and other Material by Site

V		VI		VII		VIII		Other		TOTAL	
#	%	#	%	#	%	#	%	#	%	#	%
19	7.0	61	22.6	8	3.0	7	2.6	4	1.5	270	100.0
9	5.2	24	13.8	15	8.6	5	2.9	3	1.7	174	100.0
6	5.5	20	18.3	3	2.8	1	0.9	4	3.7	109	100.0
7	7.5	10	10.8	4	4.3	2	2.2	4	4.3	93	100.0
3	5.5	5	9.3	9	16.7	2	3.7	1	1.8	54	100.0
0	0.0	2	22.3	3	33.3	0	0.0	0	0.0	9	100.0
3	12.5	0	0.0	0	0.0	0	0.0	1	4.2	24	100.0
9	16.4	11	20.0	2	3.6	1	1.8	0	0.0	55	100.0
9	27.3	1	3.0	1	3.0	0	0.0	0	0.0	33	100.0
2	6.5	11	35.4	2	6.5	1	3.1	2	6.5	31	100.0
3	12.5	1	4.3	2	8.3	0	0.0	0	0.0	24	100.0
17	8.3	35	17.0	2	1.0	3	1.5	0	0.0	205	100.0
1	10.0	0	0.0	0	0.0	0	0.0	0	0.0	10	100.0
1	7.1	3	21.5	0	0.0	1	7.1	1	7.1	14	100.0
0	0.0	2	14.3	2	14.3	0	0.0	0	0.0	14	100.0
1	1.9	9	17.3	3	5.8	0	0.0	0	0.0	52	100.0
2	22.2	0	0.0	0	0.0	0	0.0	1	11.1	9	99.9
92	7.8	195	16.5	56	4.8	23	1.9	21	1.8	1180	100.0
20	13.1	17	11.1	3	2.0	0	0.0	1	0.7	153	100.0
4	18.2	7	31.8	1	4.6	0	0.0	0	0.0	22	100.0
5	5.1	12	12.4	3	3.1	2	2.1	0	0.0	97	100.0
0	0.0	1	10.0	0	0.0	0	0.0	2	20.0	10	100.0
12	7.2	20	12.0	7	4.2	3	1.8	0	0.0	167	100.0
0	0.0	0	0.0	1	50.0	0	0.0	0	0.0	2	100.0
1	33.3	0	0.0	0	0.0	0	0.0	0	0.0	3	100.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	100.0
42	9.1	57	12.4	15	3.3	5	1.1	3	.6	460	100.0
134	8.2	252	15.4	71	4.3	28	1.7	24	1.5	1640	100.0

2

Table 4: Distribution of Chert Types and

	I		II		III		IV		V
	#	%	#	%	#	%	#	%	#
Debitage	587	41.6	146	10.3	22	1.6	242	17.2	102
Utilized Flakes	10	29.4	4	11.8	4	11.8	4	11.8	7
Retouched Flakes	12	30.0	7	17.5	3	7.5	4	10.0	3
Projectile Points	16	28.6	5	8.9	9	16.0	2	3.6	13
Drills	2	100.0	0	0.0	0	0.0	0	0.0	0
Hafted Scraper	0	0.0	0	0.0	0	0.0	0	0.0	0
Biface	18	35.3	6	11.8	0	0.0	3	5.9	8
Uniface	6	25.0	5	20.8	0	0.0	5	20.8	1
Pick	2	100.0	0	0.0	0	0.0	0	0.0	0
Axe	3	30.0	0	0.0	0	0.0	1	10.0	0
Celt	0	0.0	0	0.0	0	0.0	0	0.0	0
Hammerstone	2	50.0	0	0.0	0	0.0	0	0.0	0
Metate	0	0.0	0	0.0	0	0.0	0	0.0	0
Core	1	100.0	0	0.0	0	0.0	0	0.0	0
<b>TOTAL</b>	<b>659</b>	<b>40.2</b>	<b>173</b>	<b>10.5</b>	<b>38</b>	<b>2.3</b>	<b>261</b>	<b>15.9</b>	<b>134</b>

and other material by Artifact Type

V	VI		VII		VIII		Other		TOTAL	
%	#	%	#	%	#	%	#	%	#	%
7.2	212	15.0	64	4.5	24	1.7	12	.9	1411	100.0
20.5	4	11.8	0	0.0	1	2.9	0	0.0	34	100.0
7.5	9	22.5	1	2.5	1	2.5	0	0.0	40	100.0
23.2	8	14.3	3	5.4	0	0.0	0	0.0	56	100.0
0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0
0.0	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
15.7	12	23.5	3	5.9	1	1.9	0	0.0	51	100.0
4.2	6	25.0	0	0.0	1	4.2	0	0.0	24	100.0
0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0
0.0	0	0.0	0	0.0	0	0.0	6	60.0	10	100.0
0.0	0	0.0	0	0.0	0	0.0	3	100.0	3	100.0
0.0	0	0.0	0	0.0	0	0.0	2	50.0	4	100.0
0.0	0	0.0	0	0.0	0	0.0	1	100.0	1	100.0
0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100.0
8.2	252	15.4	71	4.3	28	1.7	24	1.5	1640	100.0

The artifact types (Table 5) include debitage, utilized flakes, retouched flakes, 30 projectile point types, eight biface types, drills, a scraper, picks, axes, celts, hammerstones, unifaces and a metate. These are discussed below:

#### Debitage

The largest portion of the material collected was debitage (86.17%). This was subdivided into primary debitage (36.48%) consisting of initial flakes and amorphous chunks of chert, and secondary debitage (49.69%), consisting of secondary and tertiary unworked flakes. The most frequently used material was Kanawha Black Flint (40.1%) followed by the Upper Mercer/Plum Run/Bogs/Zaleski cherts (15.9%). Thirteen flakes and fragments of miscellaneous material was also recovered including quartz, quartzite, hematite, a fossil and other unidentified material.

#### Utilized Flakes (Plate 1)

Utilized flakes are irregular flakes which show edge wear with no evidence of retouching. The majority of the flakes are tertiary (23) with some secondary flakes (11) also being utilized. The flake shapes have an even distribution of expanding, contracting and parallel edges. The placement of the working edge (Figure 4) favored a lateral edge with a transverse and oblique transverse edge being second and third. There were two flakes which exhibited two working edges, lateral and transverse, on the same flake. These edges were not connected to form an oblique transverse edge. Three flakes showed tubular edges and one flake had a point working edge. The three flakes with the tubular edges were generally wider and longer than the flakes with other working edges (Table 6). The marginal wear of all of these edges favored unifacial over bifacial wear, 2:1.

#### Retouched Flakes (Plate 1)

Forty flakes were modified by retouching to form a tool for cutting or scraping. Seven of these flakes were primary flakes, eight were secondary and 25 were tertiary flakes. Like the utilized flakes, the shapes of the retouched flakes were evenly distributed over expanding, contracting and parallel edges. The favored working edges were lateral (13) and oblique transverse (12). Other retouched edges include five transverse, seven tubular and three point. Preference of marginal retouching was unifacial over bifacial, 3:2.

Table 5  
Distribution of Artifact Types

Type	Number	Percent
Debitage	1411	25.88
Utilized Flakes	34	2.07
Retouched Flakes	40	2.43
Projectile Points	56	3.41
Drills	2	.12
Hafted Scraper	1	.06
Bifaces	51	3.10
Unifaces	24	1.46
Picks	2	.12
Axes	10	.61
Celts	3	.19
Hammerstones	4	.24
Metate	1	.06
Core	1	.06
Pottery	3	.19
Total	1643	100.00

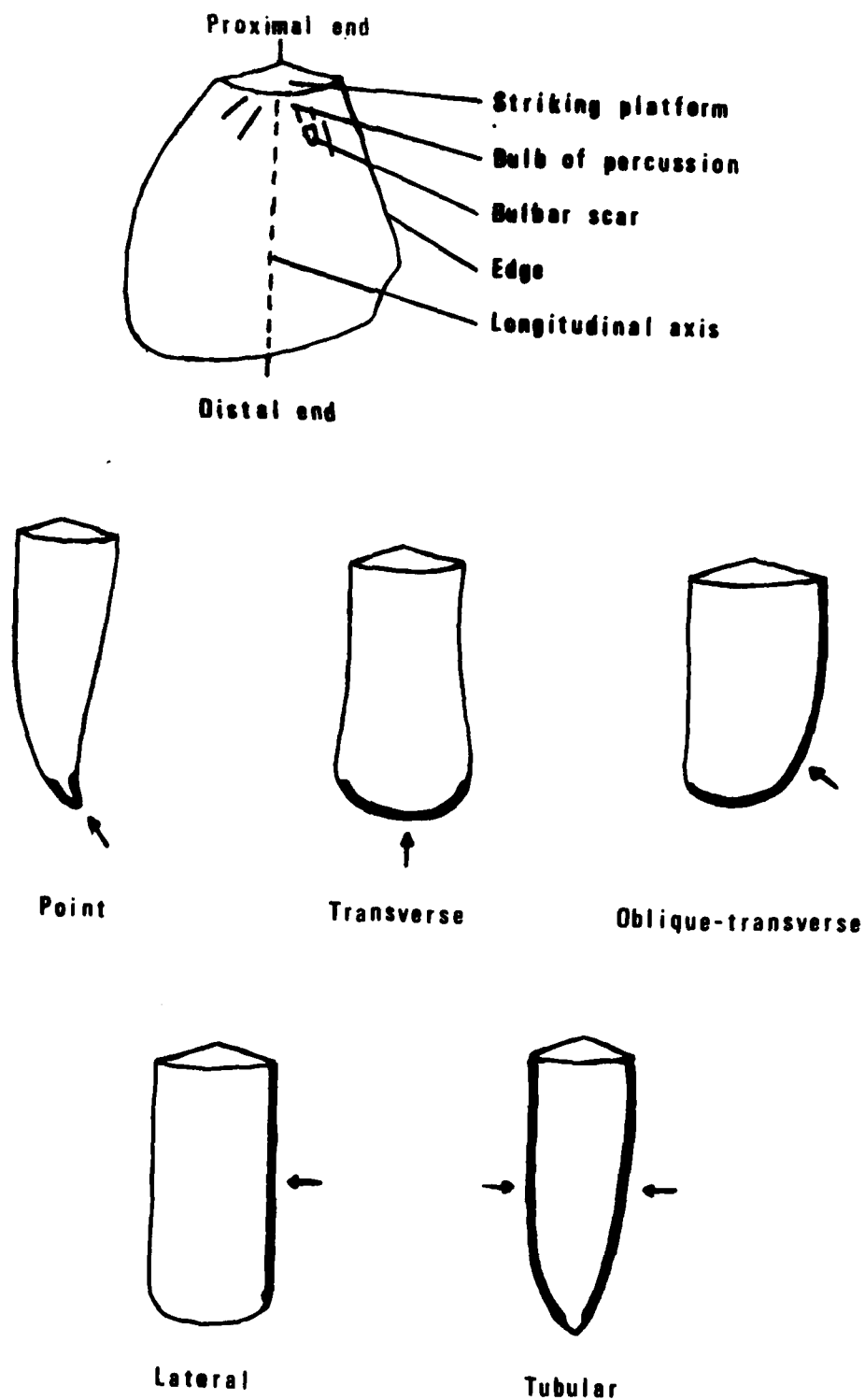


Figure 4 The topology of a flake and the placement of working edges  
(Reinhart 1975: 135, after White 1963: 33)

Table 6. Size<sup>1</sup> of Retouched and Utilized Flakes.

Placement of Working Edge	Number	Length		Width		Thickness	
		Range	Mean	Range	Mean	Range	Mean
Utilized Flakes							
Lateral	16	20.6-51.0	29.9	16.2-59.5	29.2	3.6-15.7	8.4
Transverse	9	15.9-57.2	28.4	19.9-53.6	29.8	3.6-16.4	8.4
Oblique Transverse	6	13.2-48.9	28.2	16.3-45.2	28.9	5.0-24.5	14.3
Tubular	4	19.7-60.3	38.5	26.0-45.9	33.7	5.9- 8.8	7.0
Point	1	30.5	30.5	42.9	42.9	11.9	11.9
Total	34	13.2-60.3	30.3	16.2-59.5	30.36	3.5-19.0	9.57
Retouched Flakes							
Lateral	13	23.4-62.1	38.1	14.6-40.2	26.7	5.2-18.6	10.1
Transverse	5	15.0-35.5	25.0	21.7-46.0	34.4	4.0-18.6	7.06
Oblique Transverse	12	15.8-44.3	32.4	12.4-33.9	24.7	6.9-14.0	9.09
Tubular	7	23.5-52.8	40.7	17.3-33.9	25.5	4.0-11.0	8.5
Point	3	30.6-62.8	42.7	19.6-34.8	26.3	8.0-26.0	15.3
Total	40	15.0-62.8	35.5	14.6-46.0	26.0	4.0-18.6	9.5

<sup>1</sup>All measurements were taken in millimeters.

## Projectile Points

The projectile points were divided into 30 types including 13 temporally defined points, 16 describable types and one category of tips and fragments. These types are described as follows:

### TYPE 1

Number of Specimens: One fragment (Plate 2,A)

Description: A corner notched point with a triangular blade and expanding stem. The blade edges are straight and serrated. The stem expands wider than the blade width and has a concave base. Side notches are broad, measuring 10 mm and 12 mm. The cross-section is biconvex.

Material: Kanawha Black Flint

Maximum Length: Fragment

Maximum Width: 24.5 mm

Maximum Thickness: 8.3 mm

Distribution: 46Ms113

Comments: This point resembles the description of the Kirk Corner Notched, large variety point described by Betty Broyles (1971: 64-65). This point was originally described by Coe (1964: 69-70) and earlier by Broyles (1966: 21).

Age and Cultural Affiliation: Early Archaic

### TYPE 2

Number of Specimens: One complete (Plate 2,B)

Description: A long narrow lanceolate blade with a convex basal edge. The point was shaped by random coarse flaking. The basal end up to one third the length of the blade is thinned and finely retouched along the edges. The cross-section is biconvex.

Material: Kanawha Black Flint

Maximum Length: 55.6 mm

Maximum Width: 21.0 mm

Maximum Thickness: 9.6 mm

Distribution: 46Ms100

Comments: This point is similar to the Guilford points reported in Bell (1960: 52, plate 26) and described by Coe (1952: 304) and McMichael (1968).

Age and Cultural Affiliation: Middle Archaic

### TYPE 3

Number of Specimens: One fragment (Plate 2,C)

Description: A medium sized stemmed point. The blade is triangular



with slightly convex sides. Shoulders are rounded and slope into the stem which on this specimen is fragmented. The point is coarse to medium flaked with fine retouching. Cross-section is biconvex.

Material: Miscellaneous chert not identifiable as pebble chert.

Maximum Length: Fragment

Maximum Width: 20.8 mm

Maximum Thickness: 8.0 mm

Distribution: 46Msl09

Comments: Although the stem is broken, making positive identification impossible, the blade shape and shoulders are similar to the Morrow Mountain point (Coe 1964: 37,43).

Age and Cultural Affiliation: Middle Archaic, 5,000 - 4,000 B.C.

#### TYPE 4

Number of Specimens: Two complete (Plate 2,D-E)

Description: Small point with trianguloid blade and short stubby stem. The point was shaped by coarse to medium flaking. The blade edges are convex. Retouching is found unifacially on the opposite sides of opposite blade edges. The point is corner notched forming a stem with pointed tangs. The shoulders are rounded. The basal edge is straight to convex and is half as wide as the blade. The cross-sections are biconvex and plano-convex.

Material: Kanawha Black Flint, Upper Mercer/Plum Run Chert

Maximum Length: 30.3 mm

Maximum Width: 24.6 mm

Maximum Thickness: 8.5 mm

Distribution: 46Msl4, 46Ms97

Comments: Identified as being similar to Type 114, Small-Medium Corner Removed points reported by Faulkner and McCollough (1973: 128-129, 286), these points resemble the Sykes point of the Big Sandy phase (Lewis and Lewis 1961: 40-43).

Age and Cultural Affiliation: Middle to Late Archaic

#### TYPE 5

Number of Specimens: Two complete, Three fragmentary (Plate 3)

Description: Coarse flaked, stemmed points. The blades are trianguloid in shape and edges show medium to fine unifacial retouching. Shoulders are squared to upward sloping. The stem is straight to slightly expanded and one-fourth the length of the blade. Basal edges are straight to slightly convex with medium retouching. One specimen has a beveled basal edge. The cross-sections are biconvex for four specimens and plano-convex for one.

Material: 3 Kanawha Black Flint, 2 Flint Ridge Flint

Maximum Length: 45.5 mm, range, 43.1 - 47.9 mm  
Maximum Width: 24.5 mm, range 20.7 - 27.1 mm  
Maximum Thickness: 10.0 mm, range 8.5 - 12.1 mm  
Distribution: 46Ms14, 46Ms98, 46Ms99(two), 46Ms113

Comments: The description of these points corresponds with the description of Buffalo Straight Stem points (Broyles 1976: 14-15). These points differ from the Buffalo Straight Stem in that they have unifacial thinning rather than bifacial thinning of blade edges. These points are probably related to Type L, Paralleled-Sided Stemmed points described by Holland (1955: 170, plate 29).

Age and Cultural Affiliation: Late Archaic

#### TYPE 6

Number of Specimens: Two fragmentary (Plate 4, A-B)

Description: A thick point with an expanding stem. These points were shaped by coarse flaking and retouching. The expanding stem has straight sides and convex basal edges. The tangs are rounded. The cross-section is biconvex. One specimen has had its blade reworked.

Material: Hughes River/Brush Creek Chert, miscellaneous chert not identifiable as pebble chert.

Maximum Length: Fragment

Maximum Width: 35.5 mm

Maximum Thickness: 9.4 mm, range 8.1 - 10.6 mm

Distribution: 46Ms106, 46Ms99

Comments: These points were identified as being similar to Type 81, Medium Straight-Expanded Stemmed, Barbed, Wide Blade points reported by Faulkner and McCollough (1973: 109-110, 239). These are similar to the Wade type reported by Cambron and Hulse (1960).

Age and Cultural Affiliation: Late Archaic

#### TYPE 7

Number of Specimens: One complete (Plate 4, C)

Description: A long thin trianguloid blade with a rounded contracting stem. Flaking is medium with a ridge formed down the longitudinal axis. The blade edges are straight with fine random retouching. Shoulders are rounded and sloping. The stem is 1/5 the length of the blade and shows fine unifacial retouching.

Material: Kanawha Black Flint

Maximum Length: 62.5 mm

Maximum Width: 23.7 mm

Maximum Thickness: 8.0 mm

Distribution: 46Ms101

Comments: This point is similar to the Type 91, Medium Rounded Stemmed, Narrow Blade type described by Faulkner and McCollough (1973: 114-115, 250). The point from 46Ms101 however has finer workmanship than those described in the Normandy Reservoir report.

Age and Cultural Affiliation: Late Archaic - Early Woodland

#### TYPE 8

Number of Specimens: One complete (Plate 4,D)

Description: A trianguloid blade with slightly expanding stem, shaped by medium flaking. The blade has convex edges and fine bifacial retouching. Shoulders are squared. The stem width is half the width of the blade and 1/3 the length. Sides of the stem are convex and the basal edge is straight. Light, fine retouching is found along the stem side edges.

Material: Flint Ridge Flint

Maximum Length: 47.7 mm

Maximum Width: 28.0 mm

Maximum Thickness: 8.1 mm

Distribution: 46Ms98

Comment: Described as a Late Adena Point by Converse (1973: 57) it could possibly be typed as a Robbins Point (Dragoo, 1958) (Perino 1971:82).

Age and Cultural Affiliation: Early Woodland, Late Adena

#### TYPE 9

Number of Specimens: One fragmentary (Plate 4,E)

Description: A notched point with a pentagonal blade and expanding stem. One of the notches is a corner notch measuring 6.3 mm and the opposing notch is a side notch measuring 3.9 mm. The edges of the blade are convex ending in a slightly rounded barb. The base is straight, sloping upward into pointed tangs. Flaking is random resulting in a lenticulate cross-section. Fine bifacial retouching is found along blade and base edges. There is also slight unifacial grinding on the base.

Material: Black Flint Ridge

Maximum Length: Fragment

Maximum Width: 22.2 mm

Maximum Thickness: 4.4 mm

Distribution: 46Ms100

Comments: This point is similar to the Type 29, Thin Pentagonal Blade, Side Notched point reported by Sanders and Weinland (1976: 41-42). They relate this point to Knight Island points (Cambron and Hulse 1975: 76) and to the Jack's Reef

point (Perino 1968: 39, plate 19).  
Age and Cultural Affiliation: Middle Woodland

#### TYPE 10

Number of Specimens: One complete, two fragments (Plate 5,A-C)  
Description: Trianguloid blade with an expanding stem. The points were shaped by coarse random flaking. Blade edges are convex with edges showing medium to fine retouching. The edges of one specimen are serrated. Shoulders are present but not prominent. The expanding stem is as wide as the blade and has a convex basal edge. One specimen is serrated along all the stem edges. Cross-sections are plano-convex and biconvex.

Material: Kanawha Black Flint, Flint Ridge Flint, Gray/tan pebble chert.

Maximum Length: 41.9 mm

Maximum Width: 19.7 mm, range 18.5 - 20.6 mm

Maximum Thickness: 8.0 mm, range 7.5 - 9.1 mm

Distribution: 46Ms14, 46Ms113, 46Ms119

Comments: These points are described by Converse (1973: 64) as Chesser Notched Points.

Age and Cultural Affiliation: Middle - Late Woodland

#### TYPE 11

Number of Specimens: Three complete (Plate 5,D-F)

Description: Small points with triangular blades, side notches and expanding stem. The blade has symmetrical sides with straight edges. The stem is half as long as the blade. The basal edge is straight to convex and is nearly as wide as the blade. The tangs are rounded and the barbs are pointed. The points were shaped by medium flaking with medium unifacial retouching. The cross-section is biconvex.

Material: Kanawha Black Flint, Gray/tan pebble chert (two)

Maximum Length: 25.1 mm, range 23.2 - 29.0 mm

Maximum Width: 18.8 mm, range 17.7 - 20.6 mm

Maximum Thickness: 6.3 mm, range 5.8 - 6.6 mm

Distribution: 46Ms99, 46Ms113, 46Ms120

Comments: These points are reported by Converse (1973: 72) to be Mississippian. Kuhn and Miller (1976: 11-15), however, conclude that "'birdpoints' span the gamut of cultures and subcultures in varying concentrations." Their description of Archaic birdpoints, however, relates to the ones recovered in Gallipolis Survey because of their thickness. Two of the three points from the survey were found with Archaic points.

Age and Cultural Affiliation: Archaic

#### TYPE 12

Number of Specimens: Three fragments (Plate 5,G-I)

Description: Triangular, generally isosceles. Blade edges are straight and bases are straight (two) to slightly concave (one). Flaking is coarse to medium with fine retouching in random spots along the edges. All are lenticulate in cross-section.

Material: Kanawha Black Flint, Hughes River/Brush Creek chert and grey/tan pebble chert.

Maximum Length: All fragments.

Maximum Width: 19.3 mm, range 16.4 - 21.4 mm

Maximum Thickness: 3.4 mm, range 3.1 - 3.6 mm

Distribution: 46Msl05, 46Msl07, 46Msl18

Comments: These points correspond to the Triangular Points described by Converse (1973: 68). He notes that these points are "found almost universally in late cultures over the eastern part of the United States." Also similar are points reported by Faulkner and McCollough (1973: 92, 210) as Type 48, Medium Triangular, Thin Straight Blade and Holland's (1955: 166-167) Medium Triangular points.

Age and Cultural Affiliation: Late Prehistoric, Fort Ancient

#### TYPE 13

Number of Specimens: Two complete (Plate 6,A-B)

Description: Almost pentagonal in shape these points have a slight shoulder at the half way point of the length. The point is shaped by medium flaking making the edges slightly serrated. The edges between the base and shoulder and the shoulder and tip are straight. The basal edge is straight to slightly convex.

Material: Kanawha Black Flint, Gray/tan pebble chert

Maximum Length: 31.7 mm, range 29.0 - 34.3 mm

Maximum Width: 23.6 mm, range 19.2 - 27.9 mm

Maximum Thickness: 16.1 mm, 7.3 to 8.8 mm

Distribution: 46Msl00

Comments: This point is similar to the Shetley point described by Perino (1971: 92, plate 46). The Shetley is found in northeast Oklahoma and northwest Arkansas as well as parts of the Mississippi-Ohio drainage.

Age and Cultural Affiliation: Late Prehistoric, A.D. 1300 to 1650

#### TYPE 14

Number of Specimens: One complete (Plate 6,C)

**Description:** A long slender lanceolate blade. Coarse flaking forms a ridge along the longitudinal axis. Retouching is unifacial and fine along the edges forming some serration. The basal edge is naturally truncated. Cross-section is almost diamond shaped.

**Material:** Kanawha Black Flint

**Maximum Length:** 40.8 mm

**Maximum Width:** 14.2 mm

**Maximum Thickness:** 8.0 mm

**Distribution:** 46Ms107

#### TYPE 15

**Number of Specimens:** One fragment (Plate 6,D)

**Description:** This was a stemmed point with pronounced barbs which are paralleled to the stem. The stem has straight sides and a concave base. It was shaped by coarse flaking with only coarse retouching being apparent. The cross-section is biconvex.

**Material:** Kanawha Black Flint

**Maximum Length:** Fragment

**Maximum Width:** 28.7 mm

**Maximum Thickness:** 9.6 mm

**Distribution:** 46Ms99

#### TYPE 16

**Number of Specimens:** One fragment (Plate 6,E)

**Description:** Coarse flaked triangular point. The blade is symmetrical with straight, serrated edges. The base is fragmented but appears to have been barbed with basal notches. The overall shape was obtained by random coarse flaking and fine retouching. The cross-section is biconvex.

**Material:** Miscellaneous chert not identifiable as pebble chert.

**Maximum Length:** Fragment

**Maximum Width:** Fragment

**Maximum Thickness:** 7.4 mm

**Distribution:** 46Ms113

#### TYPE 17

**Number of Specimens:** One complete (Plate 6,F)

**Description:** Lanceolate blade with irregular convex base, no stem. Medium flaking is demonstrated with fine bifacial retouching producing serrated edges. This point is made from a thin flake resulting in a lenticulate cross-section.

**Material:** Flint Ridge Flint

Maximum Length: 30.3 mm  
Maximum Width: 16.2 mm  
Maximum Thickness: 4.2 mm  
Distribution: 46Msl4

#### TYPE 18

Number of Specimens: One fragment (Plate 6,G)  
Description: A thick, crude, ovate blade. Shaped by medium to fine flaking, all edges are convex. The basal edge is truncated by a fracture.  
Material: Miscellaneous chert not identifiable as pebble chert  
Maximum Length: Fragment  
Maximum Width: 16.2 mm  
Maximum Thickness: 8.0 mm  
Distribution: 46Msl4

#### TYPE 19

Number of Specimens: One complete (Plate 6,H)  
Description: Triangular blade with expanding base. One edge of the blade edge is straight and the other is slightly convex. Notches are slightly above the corner with one measuring 3.1 mm and the opposite one 2.9 mm. The blade is slightly wider than the base and the blade is 4.2 times the length of the stem. Flaking is medium sized and random with coarse flaked bifacial retouch. Cross-section is lenticulate.  
Material: Kanawha Black Flint  
Maximum Length: 33.5 mm  
Maximum Width: 17.3 mm  
Maximum Thickness: 5.7 mm  
Distribution: 46Msl4

#### TYPE 20

Number of Specimens: One fragment (Plate 6,I)  
Description: A medium sized corner notched point. The blade is triangular with slightly convex edges. The shoulders are square. The majority of the stem is missing but it is two-thirds the width of the blade. The point was shaped by medium to fine flaking with fine retouching along blade edges. Cross-section is biconvex.  
Material: Miscellaneous chert not identifiable as pebble chert.  
Maximum Length: Fragment  
Maximum Width: 25.2 mm  
Maximum Thickness: 8.1 mm  
Distribution: 46Msl00

#### TYPE 21

Number of Specimens: One complete (Plate 7,A)

Description: An asymmetrical point with one corner notch. The blade is trianguloid with convex edges. The stem is one fifth the length of the blade. It has convex sides and a straight base. The one shoulder is very pronounced and square. Overall workmanship on the point is very good, it was shaped by random fine flaking with fine retouching along the edges.

Material: Flint Ridge Flint

Maximum Length: 30.6 mm

Maximum Width: 23.3 mm

Maximum Thickness: 5.4 mm

Distribution: 46Ms102

#### TYPE 22

Number of Specimens: One fragmentary (Plate 7,B)

Description: A medium flaked point with a triangular blade, shallow side notches and wide base. The blade edges are slightly convex. The side notches are shallow (1.4 mm and 2.8 mm deep) and broad, both being 7.9 mm wide. The base is wider than the blade with the basal edge being straight and showing fine retouching. The cross-section is almost diamond shaped.

Material: Grey/tan pebble chert.

Maximum Length: 32.1 mm

Maximum Width: 22.1 mm

Maximum Thickness: 7.3 mm

Distribution: 46Ms111

#### TYPE 23

Number of Specimens: One complete (Plate 7,C)

Description: A small thick point with a trianguloid blade, shallow side notches and expanding stem. Blade and basal edges are slightly convex. The stem is one half the length of the blade and is slightly smaller than the blade width. There are no barbs but rather the shoulders are sloping. One tang is pointed and the other is rounded. Flaking is medium with no retouching. The cross-section is biconvex.

Material: Miscellaneous pebble chert

Maximum Length: 30.1 mm

Maximum Width: 20.9 mm

Maximum Thickness: 8.8 mm

Distribution: 46Ms111



TYPE 24

Number of Specimens: One fragment (Plate 7,D)

Description: A trianguloid blade with broad side notches forming an expanding stem. Blade edges are straight and convex. The basal edge is partially broken. Flaking is coarse with random retouching along the edges. The cross-section is plano-convex.

Material: Miscellaneous pebble chert

Maximum Length: Fragment

Maximum Width: 26.8 mm

Maximum Thickness: 7.3 mm

Distribution: 46Msl09

TYPE 25

Number of Specimens: One fragment (Plate 7,E)

Description: A crude, thick, biconvex point made by random coarse flaking. The blade is trianguloid with straight edges. A broad deep side notch (11 mm wide, 6 mm deep) forms the stem and rounded shoulder. Tangs are blunt points. Basal edge is straight with fine retouching present.

Material: Miscellaneous white chert not identifiable as pebble chert.

Maximum Length: Fragment

Maximum Width: 22.8 mm

Maximum Thickness: 8.7 mm

Distribution: 46Msl06

TYPE 26

Number of Specimens: One fragment (Plate 7,F)

Description: A fragment of a large side notched point. A large portion of the blade is missing but it appears to have had straight sides with medium retouching. The notches are broad (12.4 mm and 11.5 mm) and fairly deep (5.8 mm and 4.1 mm). The shoulders are square. The stem expands so that the basal edge is nearly as wide as the width of the shoulders. Edges of the stem are concave with a convex basal edge. The whole point was shaped by medium flaking with fine unifacial flaking of the basal edge. The cross-section is plano-convex.

Material: Hughes River/Brush Creek

Maximum Length: Fragment

Maximum Width: 31.7 mm

Maximum Thickness: 7.3 mm

Distribution: 46Msl07

#### TYPE 27

Number of Specimens: One complete (Plate 7,G)

Description: Medium flaked point with a lanceolate blade and square stem. Blade edges are convex and straight, showing fine bifacial retouching. The stem is squared with a slightly convex basal edge. The stem is one third the length and two thirds the width of the blade. Edges are finely retouched. Shoulders are square. The cross-section is plano-convex. One unique feature on this point is the oddly shaped tip caused by an imperfection in the material. The tip forms a right angle, 11.6 mm down from this tip is another "point" which forms an obtuse angle.

Material: Miscellaneous chert not identifiable as pebble chert.

Maximum Length: 40.5 mm

Maximum Width: 23.1 mm

Maximum Thickness: 8.3 mm

Distribution: 46Ms97

#### TYPE 28

Number of Specimens: One fragment (Plate 7,H)

Description: Shaped by crude to medium flaking, only the stem and one shoulder is present. The stem is rectangular, measuring 20.0 mm by 18.5 mm. The edges show medium bifacial retouching. The shoulder is slight and slopes gently upward toward the tip end.

Material: Miscellaneous chert not identifiable as pebble chert.

Maximum Length: Fragment

Maximum Width: Fragment

Maximum Thickness: 8.4 mm

#### TYPE 29

Number of Specimens: One fragment (Plate 7,I)

Description: A stemmed point with prominent shoulders. The blade edge is straight, ending in a barb that is at a right angle to the longitudinal axis. The stem appears to have a straight side and convex basal edge. Flaking is coarse with coarse retouching. The cross-section is biconvex.

Material: Kanawha Black Flint.

Maximum Length: Fragment

Maximum Width: Fragment

Maximum Thickness: Fragment

Distribution: 46Ms109

### TYPE 30

Number of Specimens: Fourteen fragments

Description: This group includes tip fragments, mid-sections and one basal fragment. The tip fragments range in size from medium to large. The basal fragment is heat fractured beyond identity. All fragments are bifacially chipped with three mid-sections exhibiting unifacial retouching. The majority of these fragments have biconvex cross-sections, however, one is plano-convex and three are lenticulate.

Material: One Kanawha Black Flint, two Hughes River/Brush Creek chert, two Flint Ridge Flint, one Plum Run/Upper Mercer/Bogs/Zaleski chert, five miscellaneous cherts not identifiable as pebble chert, one grey/tan pebble chert and one miscellaneous pebble chert.

The distribution of projectile points by period and chert type are given in Table 7 and the distribution of projectile points by site are given in Table 8.

#### Drills (Plate 8,A-B)

Two fragments of drills were found in the project area. Both are made of Kanawha Black Flint. One drill is triangular in form with slight shoulders 46 mm from the base of the shank. The other drill has pronounced shoulders which form the shank (12.8 mm from the base). The edges of the shank are convex while the edges of the blade are straight. Both drills have straight flat bases and diamond shaped cross-sections for the blades.

#### Hafted Scraper (Plate 8,C)

One hafted scraper was recovered during the survey. It is 21.2 mm wide and only 12.9 mm long. The base is slightly concave and the scraping edge is beveled forming a plano-convex cross-section. The sides are notched forming a 19 mm wide haft.

#### Bifaces

The bifaces are retouched flakes or pebbles that have been worked along both surfaces of an edge. The 51 bifaces recovered from the survey of Gallipolis were divided into eight types according to shape and size. Descriptions of these types are given below:

#### TYPE 1

Number of Specimens: Seven complete, twelve fragments (Plate 9)

Description: The general shape of this type is elongated ovate. The tool is blunt pointed with convex edges and a convex to almost straight basal edge. Flaking ranges from coarse to medium and a few specimens show fine retouching along the edges.

Material: Kanawha Black Flint, Hughes River/Brush Creek chert, Gray/tan pebble chert, Miscellaneous pebble chert, Gray/green pebble chert with brown cortex.

Maximum Length: 50.9 mm, range 29.5 mm - 77.1 mm

Maximum Width: 31.4 mm, range 14.8 mm - 49.2 mm

Maximum Thickness: 12.9 mm, range 8.0 mm - 24.8 mm

Distribution: 46Ms14, 46Ms98, 46Ms99, 46Ms101, 46Ms102, 46Ms104, 46Ms109, 46Ms112, 46Ms113, 46Ms120.

#### TYPE 2

Number of Specimens: Five complete, four fragments (Plate 10)

Description: Triangular in shape these bifaces have a blunt tip formed by straight to slightly convex sides. The basal edge is convex to straight. The flaking is coarse to medium with some fine random retouching.

Material: Kanawha Black Flint, Hughes River/Brush Creek Chert, Miscellaneous cherts not identifiable as pebble chert, Miscellaneous pebble chert.

Maximum Length: 42.2 mm, range 31.5 mm - 57.1 mm

Maximum Width: 28.2 mm, range 20.4 mm - 38.3 mm

Maximum Thickness: 10.9 mm, range 8.0 mm - 15.7 mm

Distribution: 46Ms14, 46Ms97, 46Ms99, 46Ms106, 46Ms109, 46Ms114, 46Ms120.

**TABLE 7: Distribution of Projectile Points by Period**

	I		II		III		IV		V	
	#	%	#	%	#	%	#	%	#	%
Early Archaic	1	1.8								
Middle Archaic	1	1.8							1	1.8
Late Archaic	5	9.0	1	1.8	3	5.4	1	1.8	3	5.4
<b>SUB-TOTAL</b>	<b>7</b>	<b>12.6</b>	<b>1</b>	<b>1.8</b>	<b>3</b>	<b>5.4</b>	<b>1</b>	<b>1.8</b>	<b>4</b>	<b>7.2</b>
Early Woodland					1	1.8				
Middle Woodland	1	1.8			2	3.6				
Late Prehistoric	2	3.6	1	1.8						
<b>SUB-TOTAL</b>	<b>3</b>	<b>5.4</b>	<b>1</b>	<b>1.8</b>	<b>3</b>	<b>5.4</b>				
Unknown	5	9.0	3	5.4	4	7.2	1	1.8	11	19.0
<b>TOTAL</b>	<b>15</b>	<b>27.0</b>	<b>5</b>	<b>9.0</b>	<b>10</b>	<b>18.0</b>	<b>2</b>	<b>3.6</b>	<b>15</b>	<b>26.2</b>

# Period and Chert Type

VI		VII		VIII		TOTAL	
#	%	#	%	#	%	#	%
						1	1.8
						2	3.6
						13	23.4
						16	28.8
						1	1.8
1	1.8					4	7.2
2	3.6					5	9.0
3	5.4					10	18.0
3	5.4	3	5.4			30	53.2
6	10.8	3	5.4			56	100.0

PAGE 37

2

Table 8. Distribution of Projectile Points by Site.

TYPES	BOTTOM												TERRACE				TOTAL
	46Ms14	46Ms97	46Ms98	46Ms100	46Ms102	46Ms105	46Ms106	46Ms107	46Ms109	46Ms118	46Ms119	46Ms120	46Ms99	46Ms101	46Ms111	46Ms113	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	1	5
6	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
11	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	3
12	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	3
13	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
14	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
24	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
25	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
27	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
28	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
29	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
30	5	1	0	0	0	0	1	0	2	0	0	0	1	1	0	3	14
TOTAL	12	3	2	5	1	1	3	3	5	1	1	1	6	2	2	8	56

### TYPE 3

Number of Specimens: Nine complete (Plate 11,A-B)

Description: These bifaces are also ovate in shape but they are two thirds as thick as they are wide. They are made from pebble cherts, the cortex still present on eight of the nine specimens. They are formed by coarse flaking with fine random retouching on some of the specimens. The edges are convex and the cross-section is biconvex with a few specimens nearly round.

Material: Kanawha Black Flint, Plum Run/Upper Mercer/Bogs/Zaleski, Chert, Miscellaneous cherts not identifiable as pebble chert, Gray/tan pebble chert.

Maximum Length: 35.9 mm, range 28.0 mm - 47.5 mm

Maximum Width: 29.9 mm, range 23.0 mm - 35.9 mm

Maximum Thickness: 17.8 mm, range 12.2 mm - 27.8 mm

Distribution: 46Ms14, 46Ms97, 46Ms98, 46Ms109, 46Ms118.

### TYPE 4

Number of Specimens: One complete, three fragments (Plate 11,C-D)

Description: The general shape of this type of biface is ovate with truncated ends. The side edges are convex and the ends are straight to slightly concave. Flaking ranges from coarse to fine with fine retouching present.

Material: Hughes River/Brush Creek Chert, Miscellaneous cherts not identifiable as pebble cherts, Gray/tan pebble chert.

Maximum Length: 28.0 mm, range 28.0 mm

Maximum Width: 20.4 mm, range 15.8 mm - 25.0 mm

Maximum Thickness: 7.2 mm, range 6.6 mm - 8.1 mm

Distribution: 46Ms14, 46Ms109, 46Ms118



Table 9  
Distribution of Bifaces by Sites on the Bottom and on the Terrace

Site	Biface Types								Total
Bottom	1	2	3	4	5	6	7	8	
46Ms14	5	3	5	2	1	1		1	18
46Ms97		1	1				1		3
46Ms98	2		1						3
46Ms100								1	1
46Ms102	1								1
46Ms104	1								1
46Ms106		1							1
46Ms108							1		1
46Ms109	2	1	1	1				1	6
46Ms118			1	1					2
46Ms120	1	1						1	3
Terrace									
46Ms99	1	1							2
46Ms101	1								1
46Ms111						1			1
46Ms112	1								1
46Ms113	3				1				4
46Ms114		1							1
Total	18	9	9	5	2	2	2	4	51

#### TYPE 5

Number of Specimens: Two complete (Plate 12,A)

Description: This is a heavy biface type that is oval in shape. The edges are straight to convex and the flaking is coarse. There is no retouching evident.

Material: Kanawha Black Flint, Miscellaneous pebble chert.

Maximum Length: 59.3 mm, range 58.5 mm - 60.1 mm

Maximum Width: 53.5 mm, range 51.5 mm - 55.8 mm

Maximum Thickness: 22.5 mm, range 17.4 mm - 27.6 mm

Distribution: 46Ms14, 46Ms113

#### TYPE 6

Number of Specimens: Three complete (Plate 12,B)

Description: Another heavy biface type that is generally rectangular in shape and cross-section. The flaking is coarse. Selected worked edges are different on each specimen. One has bifacial working along the longitudinal and possible

unifacial working on another edge. Another has bifacial working along one edge. The third has bifacial working along two edges.

Material: Kanawha Black Flint, Miscellaneous chert not identifiable as pebble chert, Miscellaneous pebble chert.

Maximum Length: 82.9 mm, range 71.3 mm - 110.7 mm

Maximum Width: 45.1 mm, range 35.0 mm - 71.1 mm

Maximum Thickness: 21.6 mm, range 20.0 mm - 24.0 mm

Distribution: 46Ms14, 46Ms108, 46Ms111

#### TYPE 7

Number of Specimens: One complete (Plate 12,C)

Description: This type is represented by one trianguloid biface. The worked edge is slightly convex while the two nonworked edges are straight. Flaking is coarse.

Material: Kanawha Black Flint

Maximum Length: 65.8 mm

Maximum Width: 56.2 mm

Maximum Thickness: 36.0 mm

Distribution: 46Ms97

#### TYPE 8

Number of Specimens: Three complete, one fragment (Plate 13)

Description: This type consists of miscellaneous small bifaces. One is a coarse flaked, nearly rectangular tool with a single bifacial edge. The second is a small pentagonal biface with medium flaking and five straight edges. The third is lanceolate in shape with medium flaking and retouch. The last is triangular shape, the tip forming a right angle. The worked edge is convex and the non-worked edges are straight. Flaking is medium.

Distribution: 46Ms14, 46Ms100, 46Ms109, 46Ms120

#### Unifaces (Plate 14)

The unifaces are retouched flakes or pebbles that have been worked along one surface of an edge only. The majority of these tools are primary flakes (17) which show the cortex of the original pebble. The flaking of these is coarse with medium to fine retouching. Three unifaces were on secondary flakes from the center of the core. The flaking is coarse with fine retouching. There were four tertiary flakes showing unifacial retouching. The flaking on these was medium with occasional fine retouching in spots. Three were worked around the entire circumference and one was worked around half the circumference.

#### Picks (Plate 15)

Two picks made of Kanawha Black Flint were recovered. One is a river cobble (Plate 15,A) with a plano-convex cross-section. The worked end is coarsely flaked and thinned, with the opposite end thicker and still showing cortex. The side edges are straight to slightly convex while the worked edge is convex. The other pick has a triangular cross-section (Plate 15,B). It is a three-sided core that exhibits negative bulbs of percussion on two sides. The worked end is a blunt point.

#### Axes (Plate 16)

Three types of axes have been described for the survey area. These include polished axes (Plate 16,A-B) and two types of chipped axes (Plate 16,C-E). The polished axes are thought to be indicative of a Woodland component while the chipped axes indicate an Archaic component. The polished axes are represented by four fragments; two edge fragments, one fragment with a polished groove and one with a pecked groove. The material selected includes three siltstones and one claystone. These soft materials, easily fractured, probably were the reason why only fragments were present. The chipped axes are divided into types by shape; triangular and rectangular. The triangular axe is biconvex in cross-section and crudely flaked. It was found along the beach and is water worn. The rectangular shaped axes include two fragments and three complete axes. The cutting or chopping edges are formed by bifacial flaking. One axe is rounded and battered on the edge opposite the chopping edge. Three of these axes are Kanawha Black Flint, one is sandstone and one is a finely shaped siltstone.

#### Celts (Plate 17)

All three specimens are hematite. They are all polished, showing striations on the surface. One shows signs of heat treatment as an extremely rough fracture (Plate 17), discoloration and potlids are present.

#### Hammerstones (Plate 18)

Two river cobbles and two flint nodules exhibit battered edges. One flint nodule is battered on one end while the other has both ends battered. One of the river cobbles is somewhat oval with battered edges and the other exhibits a pecked pit on one side with a battered edge.

#### Metate (Plate 19)

A possible metate was discovered during the survey on site 46Ms107. It is a large assymmetrical sandstone slab covered with plow marks. The top and bottom faces of the stone have a concave surface. A pit,

presumably for cracking nuts, is also present on one face.

#### Pottery

Only three pottery sherds were recovered during the survey. These included one sherd that is approximately two square centimeters in diameters and two sherds that are one centimeter or less in diameter. The average thickness is .77 cm with a range of .70 to .85 cm. The temper of all three sherds is leached limestone, and the surface treatment for all three is cordmarked. For two of these sherds the cordmarking was identified as two-ply, 2 twist with a 1.5 mm diameter. The temporal affiliation is Middle Woodland and the attributes of these sherds fits within the range of variation of Watson Cordmarked (Mayer-Oakes 1955).

The distributions of artifact types by sites on the bottom are given in Table 10 and the distribution of artifact types by sites on the terrace are given in Table 11.

Table 10: Di

	46Ms14		46Ms97		46Ms98		46Ms100		46Ms102		46Ms103	
	#	%	#	%	#	%	#	%	#	%	#	%
Debitage	212	78.2	157	89.7	90	82.6	82	88.2	48	89.2	7	77.5
Utilized Flakes	3	1.1	3	1.7	4	3.7	0	0.0	1	1.8	0	0.0
Retouched Flakes	9	3.3	4	2.2	5	4.6	2	2.1	1	1.8	1	1.1
Projectile Points	12	4.4	3	1.7	2	1.8	5	5.4	1	1.8	0	0.0
Scraper	1	.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Drill	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Biface	18	6.6	3	1.7	3	2.8	1	1.1	1	1.8	0	0.0
Uniface	10	3.7	0	0.0	2	1.8	2	2.1	1	1.8	0	0.0
Pick	1	.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Axe	2	.7	2	1.2	2	1.8	0	0.0	1	1.8	1	1.1
Celt	1	.4	0	0.0	1	.9	0	0.0	0	0.0	0	0.0
Hammerstone	1	.4	1	.6	0	0.0	1	1.1	0	0.0	0	0.0
Metate	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Core	0	0.0	1	.6	0	0.0	0	0.0	0	0.0	0	0.0
Pottery	1	.4	1	.6	0	0.0	0	0.0	0	0.0	0	0.0
	271	100.0	175	100.0	109	100.0	93	100.0	54	100.0	9	100.0

• 10: Distribution of Artifact Types by Sites on the Bottom

46Ms103		46Ms104		46Ms105		46Ms106		46Ms107		46Ms108		46Ms109		46Ms117		46Ms118	
#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
7	77.8	22	91.6	54	98.2	27	81.9	24	77.4	22	88.0	188	91.7	9	90.0	9	64.3
0	0.0	0	0.0	0	0.0	1	3.0	0	0.0	0	0.0	4	2.0	0	0.0	0	0.0
1	1.1	0	0.0	0	0.0	0	0.0	1	3.2	1	4.0	0	0.0	1	10.0	2	14.3
0	0.0	0	0.0	1	1.8	3	9.1	3	9.7	0	0.0	5	2.4	0	0.0	1	7.1
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0.0	1	4.2	0	0.0	1	3.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0.0	1	4.2	0	0.0	1	3.0	0	0.0	1	4.0	6	2.9	0	0.0	2	14.3
0	0.0	0	0.0	0	0.0	0	0.0	2	6.5	0	0.0	1	.5	0	0.0	0	0.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	1.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.5	0	0.0	0	0.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0.0	0	0.0	0	0.0	0	0.0	1	3.2	0	0.0	0	0.0	0	0.0	0	0.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.0	0	0.0	0	0.0	0	0.0
9	100.0	24	100.0	55	100.0	33	100.0	31	100.0	25	100.0	205	100.0	10	100.0	14	100.0

g

18	46Ms119		46Ms120		GAL		TOTAL	
%	#	%	#	%	#	%	#	%
4.3	12	85.8	44	86.5	6	66.7	1013	85.6
0.0	1	7.1	2	3.9	1	11.1	20	1.7
4.3	0	0.0	1	1.9	0	0.0	28	2.3
7.1	1	7.1	1	1.9	0	0.0	38	3.2
0.0	0	0.0	0	0.0	0	0.0	1	0.1
0.0	0	0.0	0	0.0	0	0.0	2	0.2
4.3	0	0.0	3	3.9	1	11.1	41	3.4
0.0	0	0.0	0	0.0	0	0.0	18	1.5
0.0	0	0.0	1	1.9	0	0.0	2	0.2
0.0	0	0.0	0	0.0	1	11.1	10	0.8
0.0	0	0.0	0	0.0	0	0.0	2	0.2
0.0	0	0.0	0	0.0	0	0.0	3	0.3
0.0	0	0.0	0	0.0	0	0.0	1	0.1
0.0	0	0.0	0	0.0	0	0.0	1	0.1
0.0	0	0.0	0	0.0	0	0.0	3	0.3
0.0	14	100.0	52	100.0	9	100.0	1184	100.0

PAGE 44

3

Table 11: Distribution of Artifact

	46Ms99		46Ms101		46Ms111		46Ms112	
	#	%	#	%	#	%	#	%
Debitage	138	90.2	16	72.8	89	91.5	7	70.0
Utilized Flakes	3	2.0	1	4.5	2	2.1	1	10.0
Retouched Flakes	3	2.0	2	9.1	1	1.1	0	0.0
Projectile Points	6	3.9	2	9.1	2	2.1	0	0.0
Biface	2	1.3	1	4.5	1	1.1	1	10.0
Uniface	1	0.6	0	0.0	2	2.1	0	0.0
Celts	0	0.0	0	0.0	0	0.0	1	10.0
Hammerstone	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	153	100.0	22	100.0	97	100.0	10	100.0



# ifact Types by Sites on the Terrace

112	46Ms113		46Ms114		46Ms115		46Ms116		TOTAL	
%	#	%	#	%	#	%	#	%	#	%
70.0	141	84.4	1	50.0	2	66.7	4	66.6	398	86.6
10.0	5	3.0	0	0.0	1	33.3	1	16.7	14	3.0
0.0	5	3.0	0	0.0	0	0.0	1	16.7	12	2.6
0.0	8	4.8	0	0.0	0	0.0	0	0.0	18	3.9
10.0	4	2.4	1	50.0	0	0.0	0	0.0	10	2.2
0.0	3	1.8	0	0.0	0	0.0	0	0.0	6	1.3
10.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
0.0	1	.6	0	0.0	0	0.0	0	0.0	1	0.2
100.0	167	100.0	2	100.0	3	100.0	6	100.0	460	100.0

2

## THE UPLAND SITES

The hills which form the upland area next to the Gallipolis Locks and Dam are characterized by alternating strata of sandstone and red clay shale. The ridge crests are at elevations of 800 feet to 860 feet msl. The major streams occur at about 600 feet msl with drainage ways reaching almost to the ridgetops. The valley walls are steep and there is relatively no flood plain.

The soils that occur in this region are mostly in the Muskingum-Upshur complex. Some small areas of Vandalia and Holston silt loam also occur. The Muskingum-Upshur complex is characterized by steep slopes, occasional sandstone ledges and benches, landslips and the absence of most of the surface soil which is caused by erosion.

### **Mud Run Tributary**

The potential disposal area at Mud Run Tributary is projected to hold four million cubic yards creating 75 acres of relatively flat land. The watershed itself covers 230 acres with the tributary flowing about one mile.

The general topography of the area is a flat-bottomed valley with a stream of gentle gradient. The drainage basin is similar to Daves Run in that it has bench-shaped slopes, gullies and landslips as well as most of the surface soil removed by erosion. Percent slope ranges from 10 to 40. Sandstone ledges are also present.

Upon checking the National Register of Historic Places and county histories, it was determined that no sites of historic significance occurred within the drainage basin.

Archaeological records also revealed negative results. A walking survey revealed that the flat-bottomed valley was extremely moist and unfavorable for habitation and the sandstone ledges were too thinly bedded for habitable rockshelters to be present.

### **Daves Run**

The potential disposal area at Daves Run is projected to hold seven to nine million cubic yards of material creating approximately 120 acres of relatively level land. The watershed itself covers approximately 350 acres with the stream extending for a length of 1.3 miles.

This drainage basin is characterized by bench shaped slopes with the slopes ranging from 20 to 55 percent. Gullies are numerous in

places and landslips occur. Erosion has removed most if not all of the surface soil.

The National Register of Historic Places was consulted and it was found that no National Register sites existed in this drainage basin. Also consulted were several county histories, none of which revealed sites of historic significance. Aerial photographs of the area did reveal a large frame "I" house at the head of Daves Run. It is an "L" shaped two story frame house that is built on a foundation of dressed sandstone. The roof is made of sheet metal. The main house is two rooms wide and one room deep with a central hallway. The addition is also two stories and is two rooms deep and one room wide. The condition of the structure is poor.

Due to the topography of the drainage basin, no archaeological sites were predicted. After checking the records of the state archaeologist and finding no recorded sites within the basin, a walking survey was performed. The majority of the area was in woodland or overgrown. Only a path and the access road were exposed and no cultural material was evident.

## SUMMARY

Mercers Bottom when first surveyed in historic times was a tract of land desirable because of its location along the Ohio River. Its fertile soils were developed as farms and orchards. Cash crops could be easily transported up and down the river for marketing as there were many landings along the banks of the Ohio. Charts of the Ohio (Ohio River Board of Engineers on Locks and Dams, 1911-14) show Flatfoot Landing and J. O. Porters Landing in the vicinity of the proposed project area.

The distribution of prehistoric archaeological material found on Mercers Bottom is typical of the distribution of material throughout the Upper and Mid Ohio Valley and the Kanawha Valley (U.S. Corps of Engineers 1976, 1977). These similarities are reflected in the topographic location of sites, the relationship of sites to water resources, the nature of artifact concentration, the selection of flint resources and the nature of the artifacts.

Described earlier in this report are two morphological features of the flood plain which are defined by soil type and referred to as the bottom and the terrace. Of the 26 sites recorded during the survey, 16 were on the bottom and ten were on the terrace. On the bottom these sites are located predominately in Ashton Series soils with some overlap into Linside Series soil (Table 12). On the terrace there was a preference for Wheeling series soils. In both cases the site locations are on high areas. These high areas actually form ridges that tend northeast to southwest. They occur approximately 120, 625 and 900 meters directly east of the present Gallipolis Locks and Dam. The Ashton and Wheeling soils are by nature well drained and nearly level. Throughout the entire West Virginia side of the Ohio Valley the majority of 144 recorded archaeological sites occur in these two soils (Table 13). The Huntington Series and Linside Series soils are third and fourth in preference while the remaining sites are distributed over 19 other soil types. However these soil series are more broadly distributed than the surface scatter and although the soil series may aid in locating sites it must be remembered that the preference for site location actually corresponds to topography.

TABLE 12  
Distribution of Sites by Soil Type

Site	Bottom			Terrace		
	Ashton	Lindside	Melvin	Wheeling	Sciotoville	Ginat
46Ms11				X		
46Ms14	X					
46Ms97	X	X	X			
46Ms98	X	X				
46Ms99				X		
46Ms100		X				
46Ms101				X		X
46Ms102	X					
46Ms103	X					
46Ms104	X					
46Ms105	X					
46Ms106		X				
46Ms107		X				
46Ms108	X					
46Ms109	X	X				
46Ms110				X		
46Ms111				X		
46Ms112				X		
46Ms113				X		
46Ms114				X		
46Ms115				X	X	
46Ms116				X	X	
46Ms117	X					
46Ms118	X					
46Ms119	X					
6Ms120	X					
TOTALS	13	6	1	10	2	1

TABLE 13  
Distribution of Archeological Sites by soil type for the  
West Virginia side of the Ohio River

Soil Type	Number of Sites	Percent
Allegheny	1	.69
Ashton	27	18.76
Brookside	1	.69
Chagrin	2	1.39
Chavies	6	4.17
Duncannon	2	1.39
Gilpin	1	.69
Ginat	4	2.78
Huntington	18	12.5
Lakin	7	4.86
Linside	15	10.42
Melvin	1	.69
Monogahela	3	2.08
Muskingum-Upshur	1	.69
Sciotoville	2	1.39
Senecaville	2	1.39
Upper Muskingum Complex	2	1.39
Vandalia	2	1.39
Westmoreland	6	4.17
Wheeling	28	19.45
Cut & Fill	3	2.08
Made Land	8	5.55
Sloping Land	2	1.39
TOTAL	144	100.00%

Site locations are also keyed to local water resources. The sites on the bottom range in distance from the Ohio River from 0 to 770 meters. The sites on the terrace are all over 700 meters away from the Ohio River with most over 800 meters away. Four of these sites, however, are mound sites. Twenty-five of the twenty-six sites recorded are within 275 meters of a water resource. For eight of these sites the nearest water resource is the Ohio River and for the remaining 18 the nearest water resource is Flatfoot Creek. Three-quarters of the sites on the bottom are within 100 meters of its nearest water resource while the majority of the sites on the terrace are between 100 and 265 meters of the resource.

The nature of artifact concentration on Mercers Bottom is light surface scatter over large areas. The concentration of artifacts appears to be heavier on the bottom than on the terrace. A total of 1,175 artifacts or 72.8 percent of the total artifacts from the survey were found on the 16 bottom sites and 460 or 28.2 percent were found on eight of the terrace sites. However, the average number of artifacts per site collected from the bottom sites and the terrace sites, excluding the mound sites, is about the same. The amount of area surveyed on the terrace is one-third the amount of area surveyed on the bottom. Therefore the concentration of artifacts is the same for the bottom and the terrace.

The material chosen for the production of tools was evenly distributed over all the sites in the survey area with no difference in chert selection between the terrace and the bottom. The predominate type Kanawha Black Flint is found in beds and breaks into small square and oblong blocks which show no apparent polish even after being carried by streams for many miles (Krebs and Teets, 1914: 256-257, 265). Other chert types utilized at Gallipolis include locally available pebble cherts such as gray/tan pebble chert, Plum Run/Upper Mercer/Bogs/Zaleski Chert and Hughes River/Brush Creek Chert. Material that was imported into the area includes Flint Ridge Flint which is present in 11 sites which are evenly distributed over the project area. This utilization of local chert resources is also predominate in the Kanawha and Teays Valleys. Hutto (1967:14) also notes that there is a shift from the use of Kanawha Black Flint in these areas to the use of exotic cherts during the Woodland and Late Prehistoric Periods. This shift seems to be true for the Gallipolis area also. Of the identified projectile points found during the survey there is a predominance of Kanawha Black Flint (12.5 %) and other local cherts (10.8 %) during the archaic period. The Woodland and Late Prehistoric Period points however show an increase in the use of exotic cherts (5.4%) as compared to Kanawha Black Flint (5.4 %) and other local cherts (7.2 %) although these local cherts are still heavily relied upon (12.6 %). However, out of a total of 56 projectile points, 30 were unidentified and 15 of these are of exotic material.

Many of these are probably from the Woodland period which has a very poorly defined projectile point sequence for the Ohio Valley.

Fifteen artifact categories including 41 sub-groups were identified from the Gallipolis survey. The greatest variety of these categories were found on the bottom. Both areas produced debitage, retouched and utilized flakes, four projectile point types, four biface types, unifaces, celts and hammerstones. In addition to these categories the bottom produced drills, a hafted scraper, picks, axes, a metate, a core, pottery, four biface types and 10 additional projectile point types. Found on the terrace but not on the bottom were six projectile point types. All of the pottery and all of the axes were from bottom sites.

As a result of this survey one can determine that the Gallipolis project area located on Mercer's Bottom was inhabited from the Early Archaic period up through the Late Prehistoric period. Although the evidence did not reveal a large village site it did suggest numerous and frequently occupied camp sites and possible Woodland hamlets. Further investigations of these sites should provide data for the interpretation of settlement and subsistence patterns, for the interpretation of transition periods and for the development of a local chronology.



## RECOMMENDATIONS

A cultural resources survey is recommended for the Gallipolis Area. This survey should include the evaluation of historic and archaeological sites for their eligibility for the National Register of Historic places as well as the determination of appropriate mitigation plans for sites adversely affected by the Gallipolis Locks Replacement project.

The historic site to be evaluated for the National Register of Historic Places is the powerhouse from Old Lock Number 26. This will be accomplished in-house by the Corps of Engineers.

The archaeological survey should be conducted in the fall and early spring to take advantage of plowing and planting cycles and to avoid unnecessary crop damage. The survey shall include a systematic surface collection to determine accurate site boundaries as well as to determine if the large sites could be divided into smaller discrete units. A representative number of sites shall also be tested to determine eligibility for the National Register. These sites and specific recommendations include:

- 46Ms14: Testing to include 60 square meters of representative sections of the site. Hamlet area at the southern end of the site is also to be defined.
- 46Ms106: Testing to include 20 square meters of Late Archaic concentrations. Analysis should include collection of Carol Batten.
- 46Ms109: Testing to include 20 square meters. Eroding bank shall also be checked for buried sites.
- 46Ms97: Testing to include 40 square meters of representative areas of the site. Pottery producing areas should be located and tested.
- 46Ms98: Testing to include 10 square meters.
- 46Ms100: Testing to include 10 square meters.
- 46Ms108: Testing to include 5 square meters. This is a low density site on Corps owned property that should be checked for pottery and to determine the extent of disturbance.
- 46Ms107: Testing to include 10 square meters.

- 46Ms102: Testing to include 10 square meters.
- 46Ms117, 46Ms118, 46Ms119: Testing to include 10 square meters of most suitable site. All three are low density sites located in similar topographic areas.
- 46Ms103: Testing to include 10 square meters and surface collection after plowing.
- 46Ms99: Testing to include 10 square meters.
- 46Ms113: Testing to include 10 square meters.
- 46Ms112: Testing to include 10 square meters of mound to determine if features are present.
- 46Ms111: Testing to include 20 square meters.
- 46Ms120: Testing to include 10 square meters.

At least one square on each site on the bottom shall be hand excavated well below the first sterile layer to determine the possibility of finding buried deposits. The final phase of the testing program shall include the excavation of 10 backhoe trenches to determine if buried sites are present in the flood plain. The placement of these backhoe trenches will be determined at the completion of the manual testing program.

The remaining sites are low density sites and no further work is recommended. These types of sites and their characteristic assemblages are adequately covered in the proposed testing program.

Estimated cost for the archaeological survey is between \$25,000 and \$30,000.

## References

- Bell, Robert E.  
1960 Guide to the Identification of Certain American Indian Projectile Points, Special Bulletin No. 2 of the Oklahoma Anthropological Society.
- Broyles, Bettye J.  
1966 Preliminary Report: The St. Albans Site (46Ka27), Kanawha County, West Virginia: West Virginia Archeologist No. 19, pp. 1 - 43.
- 1971 Second Preliminary Report: The St. Albans Site, Kanawha County, West Virginia. Report of Archeological Investigations, No. 3, West Virginia Geological and Economic Survey, Morgantown, West Virginia.
- 1976 A Late Archaic Component at the Buffalo Site, Putnam County, West Virginia. Report of Archeological Investigations, No. 6, West Virginia Geological and Economic Survey, Morgantown, West Virginia.
- Cambron, James W. and David C. Hulse  
1960 The Transitional Paleo-Indian in North Alabama and South Tennessee. Journal of Alabama Archaeology, Vol. 6, No. 1, pp. 7 - 33.
- 1975 Handbook of Alabama Archaeology, Part 1, Point Types. Archaeological Research Association of Alabama, Inc., Moundville.
- Coe, Joffre L.  
1952 The Cultural Sequence of the Carolina Piedmont, Archaeology of Eastern United States, edited by James B. Griffen, pp. 301 - 311.
- 1964 The Formative Cultures of the Carolina Piedmont. Transactions of the American Philosophical Society, Vol. 54, Part 5, Philadelphia.
- Comstock, Jim  
1974 The West Virginia Heritage Encyclopedia. Vol. 5, Jim Comstock, Richwood, West Virginia.
- Converse, Robert N.  
1973 Ohio Flint Types. The Archaeological Society of Ohio, Columbus.

- Dragoo, D. W.  
1959 Archaic Hunters of the Upper Ohio Valley. Anthropological Series, No. 3, Carnegie Museum, Pittsburgh.
- Evans, Dan K.  
1977 Vegetation and Flora of Gallipolis Locks and Dam, Mason County, West Virginia, Gallipolis Locks and Dam, Ohio River, Plan of Study: Appendices. Huntington District Corps of Engineers, Huntington, West Virginia.
- Faulkner, Charles H. and Major C. R. McCollough  
1973 Introductory Report of the Normandy Reservoir Salvage Project: Environmental Setting, Typology and Survey. University of Tennessee, Knoxville.
- Graybill, J.  
1977 Personal Communication. West Virginia Geological Survey, Morgantown, West Virginia.
- Holland, C. G.  
1955 An Analysis of Projectile Points and Large Flakes. Bulletin of the Bureau of American Ethnology, No. 160, pp. 165 - 191.
- Hutto, Brooks  
1967 A Formal Analysis of Surface Material from Sites in the Kanawha Valley, Putnam County, West Virginia. West Virginia Archeologist, Vol. 20, pp. 1 - 36.
- Krebs, Charles E. and D. D. Teets, Jr.  
1914 West Virginia Geological Survey, Kanawha County. Wheeling News Litho. Co., Wheeling, West Virginia.
- Kuhn, David W. and James W. Miller  
1976 What Culture Ohio Birdpoints? Ohio Archaeologist, Vol. 26, No. 1, pp. 11 - 15.
- Lewis, T. M. N., and Madeline Kneberg Lewis  
1961 Eva: An Archaic Site. University of Tennessee Press, Knoxville.
- Mayer-Oakes, William J.  
1955 Prehistory of the Upper Ohio Valley: An Introductory Archaeological Study. Annals of Carnegie Museum, Vol. 34, Pittsburgh.

McMichael, Edward V.

1968 Introduction to West Virginia Archeology. West Virginia Geological and Economic Survey Educational Series, Morgantown.

1970 "Adena and Copena: A Case of Mistaken Identity in Adena: The Seeking of an Identity, edited by B. K. Swartz, Jr., Ball State University, Muncie, Indiana.

Ohio River Board of Engineers on Locks and Dams

1911-14 Ohio River Charts. The District Engineer Officer, Louisville, KY.

Perino, Gregory

1968 A Guide to the Identification of Certain American Indian Projectile Points. Oklahoma Anthropological Society, Special Bulletin, No. 3, Oklahoma Anthropological Society, Oklahoma City.

1971 A Guide to the Identification of Certain American Indian projectile Points, Oklahoma Anthropological Society, Special Bulletin, No. 4, Oklahoma Anthropological Society, Oklahoma City.

Reinhart, Theodore R.

1975 The Artifacts from Prehistoric Kingsmill (James City County, Virginia), Quarterly Bulletin of the Archeological Society of Virginia, Vol. 29, No. 3.

Sanders, Thomas N. and Marcia K. Weinland

1975 A Reconnaissance and Evaluation of Archaeological Sites in Franklin County, Kentucky, No. 1. Kentucky Heritage Commission, Frankfort.

Soil Conservation Service

1961 Soil Survey of Jackson and Mason Counties, West Virginia. U. S. Government Printing Office, Washington, DC.

U. S. Army Corps of Engineers District Huntington

1946 Photograph of Gallipolis Locks and Dam project. Huntington, West Virginia.

1974 Revised Report on Replacement, Gallipolis Locks and Dam, Ohio River, Ohio and West Virginia. Huntington, West Virginia.

1976 A Cultural Resources Reconnaissance of the Porposed Winfield Locks and Dam Replacement Project, Putnam County, West Virginia. Huntington, West Virginia.

1977 Ohio River Environmental Assessment: Cultural Resources Recon-  
naissance Report, West Virginia. Huntington, West Virginia.

White, Ants M.

1963 Analytic Description of the Chipped-Stone Industry from  
Snyders Site, Calhoun County, Illinois. (In) Miscellaneous  
Studies in Typology and Classification, pp. 1 - 70, University  
of Michigan, Museum of Anthropology, Anthropological Papers,  
No. 19, Ann Arbor.

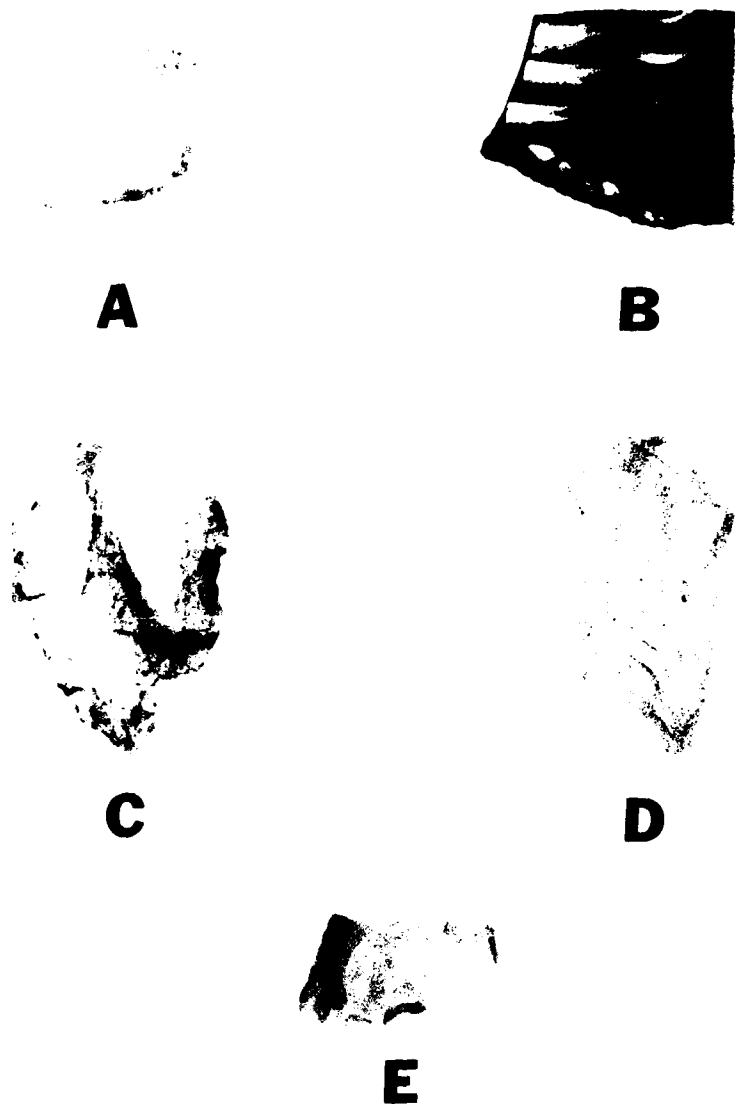


Plate 1. Utilized flakes and retouched flakes showing the placement of the working edge: A) Lateral, B) Transverse, C) Point, D) Tubular and E) Oblique Transverse.

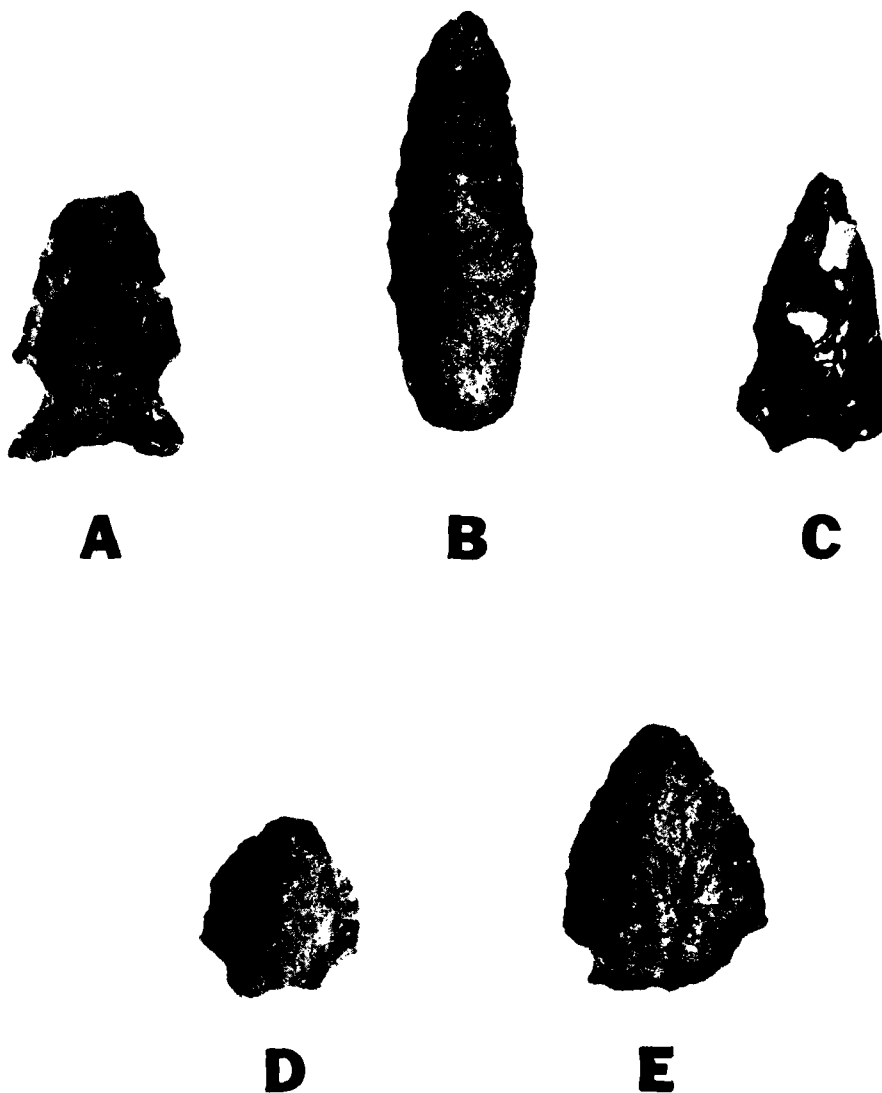


Plate 2. Projectile Point Type 1(A), Type 2(B), Type 3(C) and Type 4(D,E).



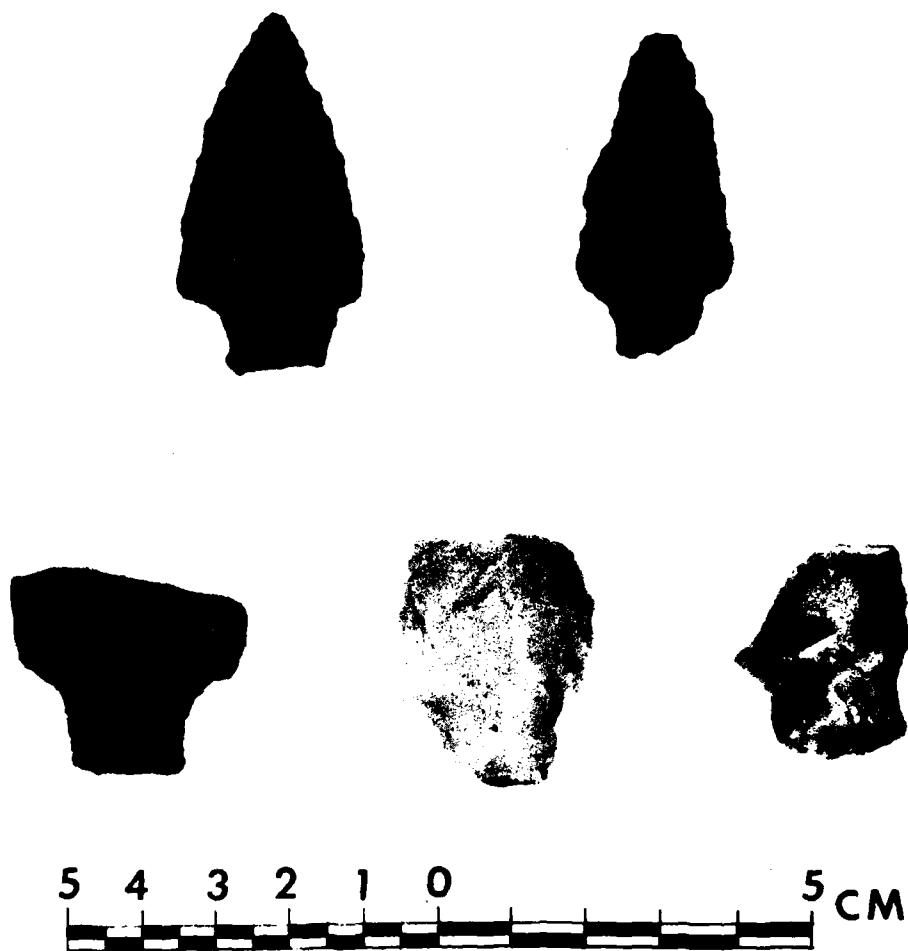


Plate 3. Projectile Point Type 5.



**A**



**B**



**C**



**D**



**E**



Plate 4. Projectile Point Type 6(A,B), Type 7(C), Type 8(D), and Type 9(E).

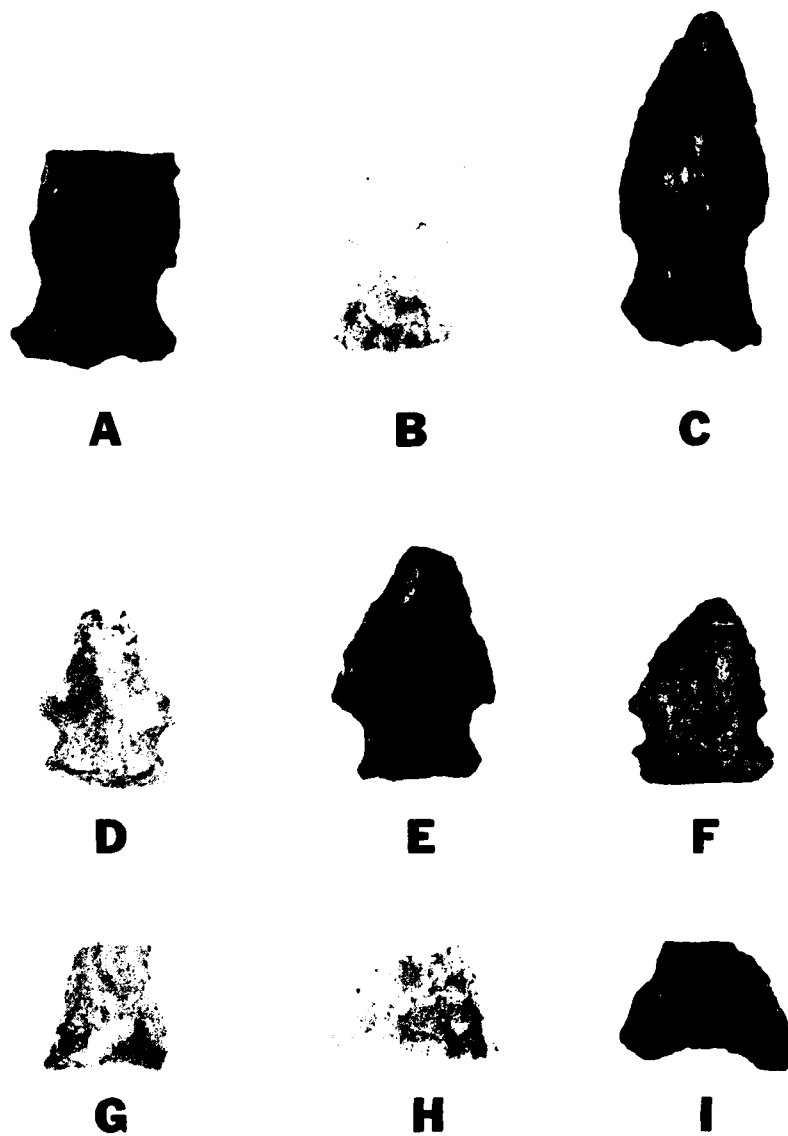


Plate 5. Projectile Point Type 10(A,B,C), Type 11(D,E,F) and Type 12(G,H,I).

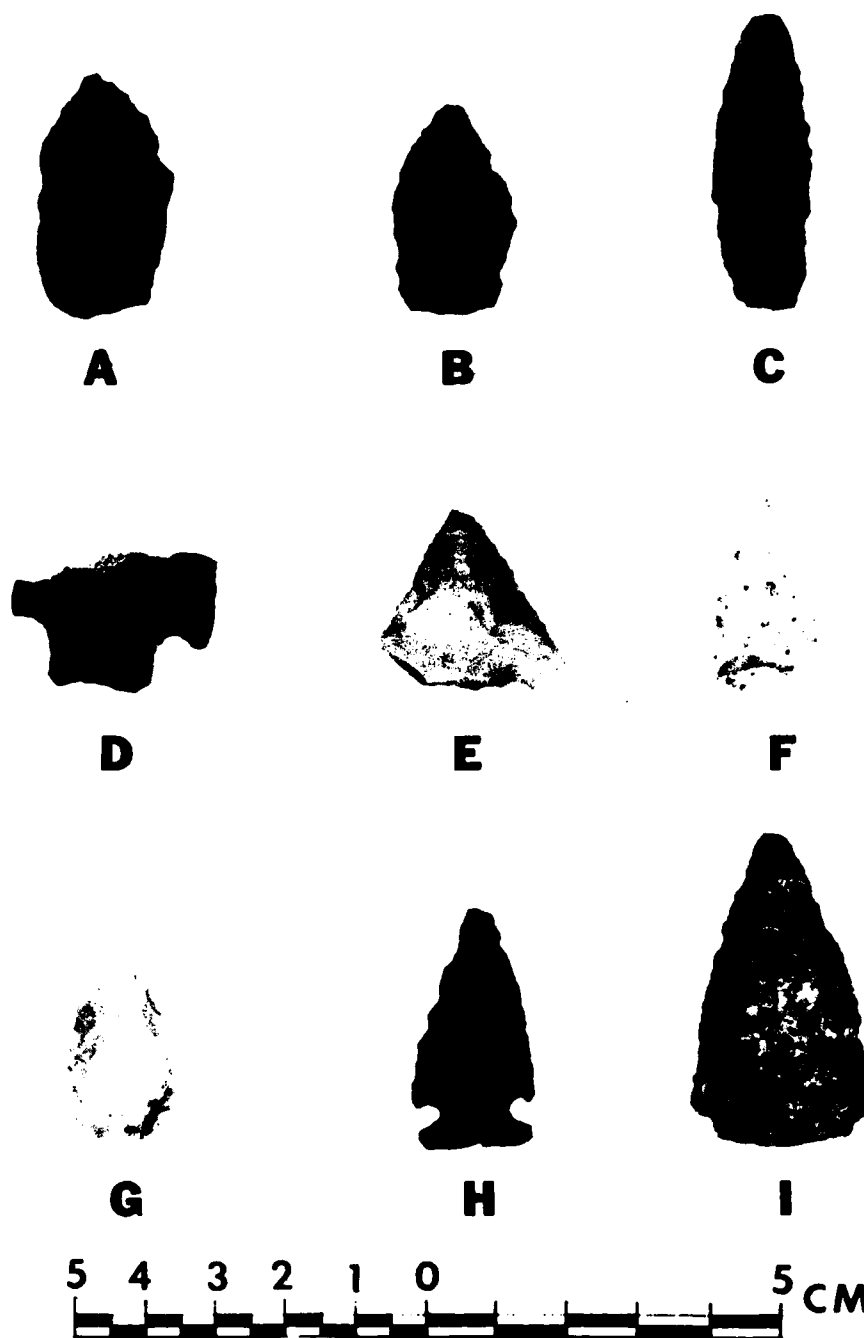


Plate 6. Projectile Point Type 13(A,B), Type 14(C), Type 15(D), Type 16(E), Type 17(F), Type 18(G), Type 19(H) and Type 20(I).

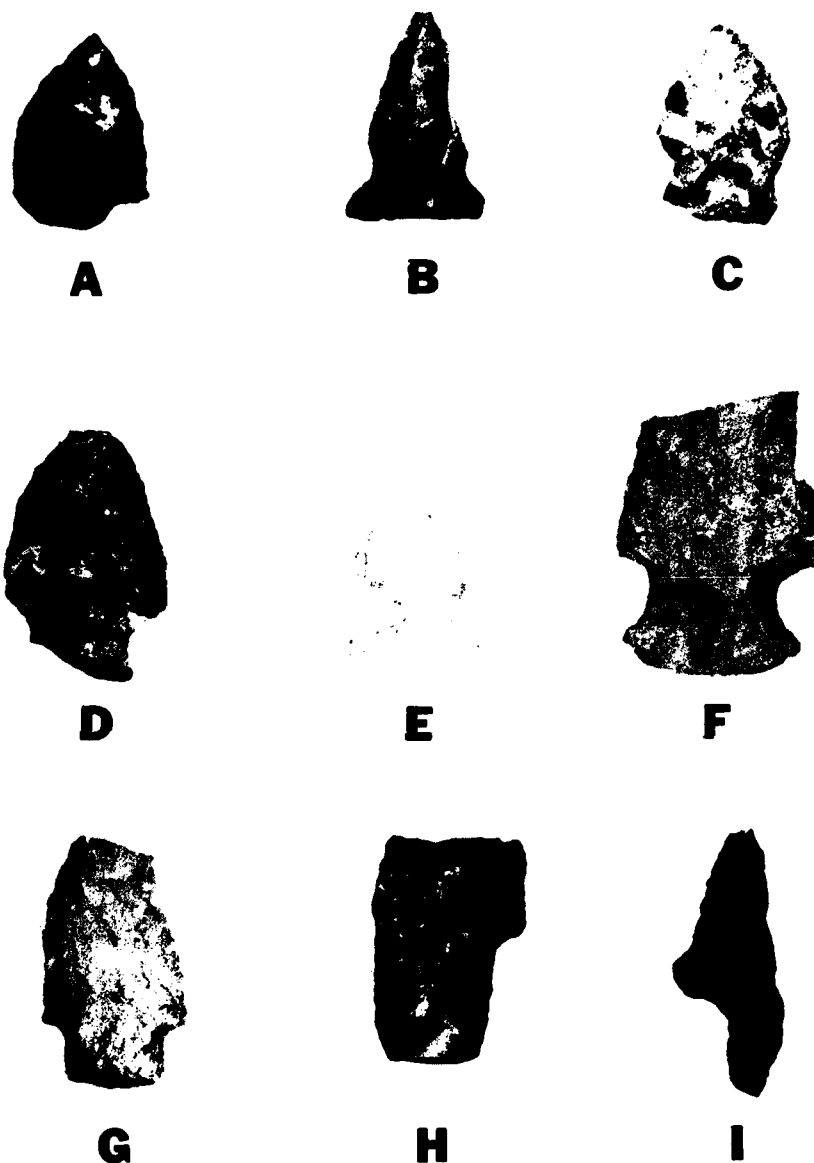


Plate 7. Projectile Points Type 21(A), Type 22(B), Type 23(C), Type 24(D), Type 25(E), Type 26(F), Type 27(G), Type 28(H) and Type 29(I).



**A**



**B**



**C**



**Plate 8. Drills(A,B) and a Hafted Scraper(C).**



Plate 9. Biface Type 1.

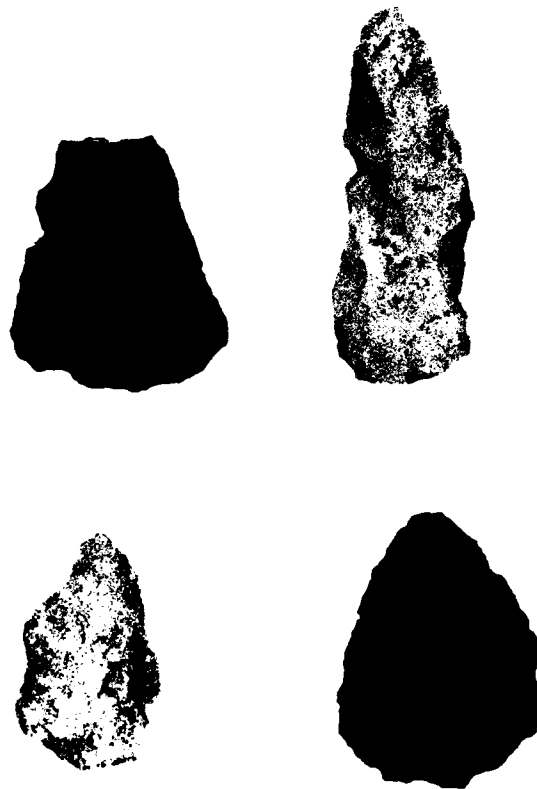


Plate 10. Biface Type 2.





**A**



**B**

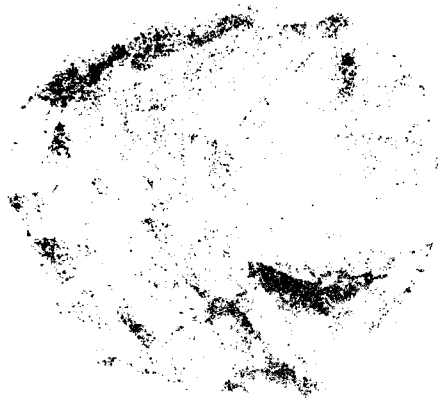


**D**

**C**



**Plate 11. Biface Type 3(A,B) and Type 4(C,D).**



**A**



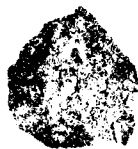
**B**



**C**



Plate 12. Biface Type 5(A), Type 6(B) and Type 7(C).



**A**



**B**



**C**

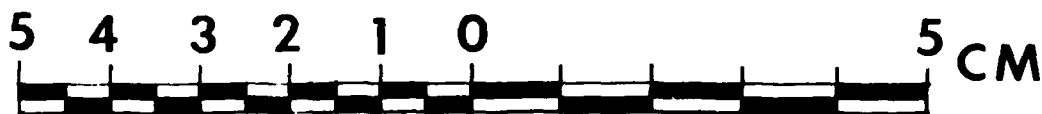


Plate 13. Biface Type 8.

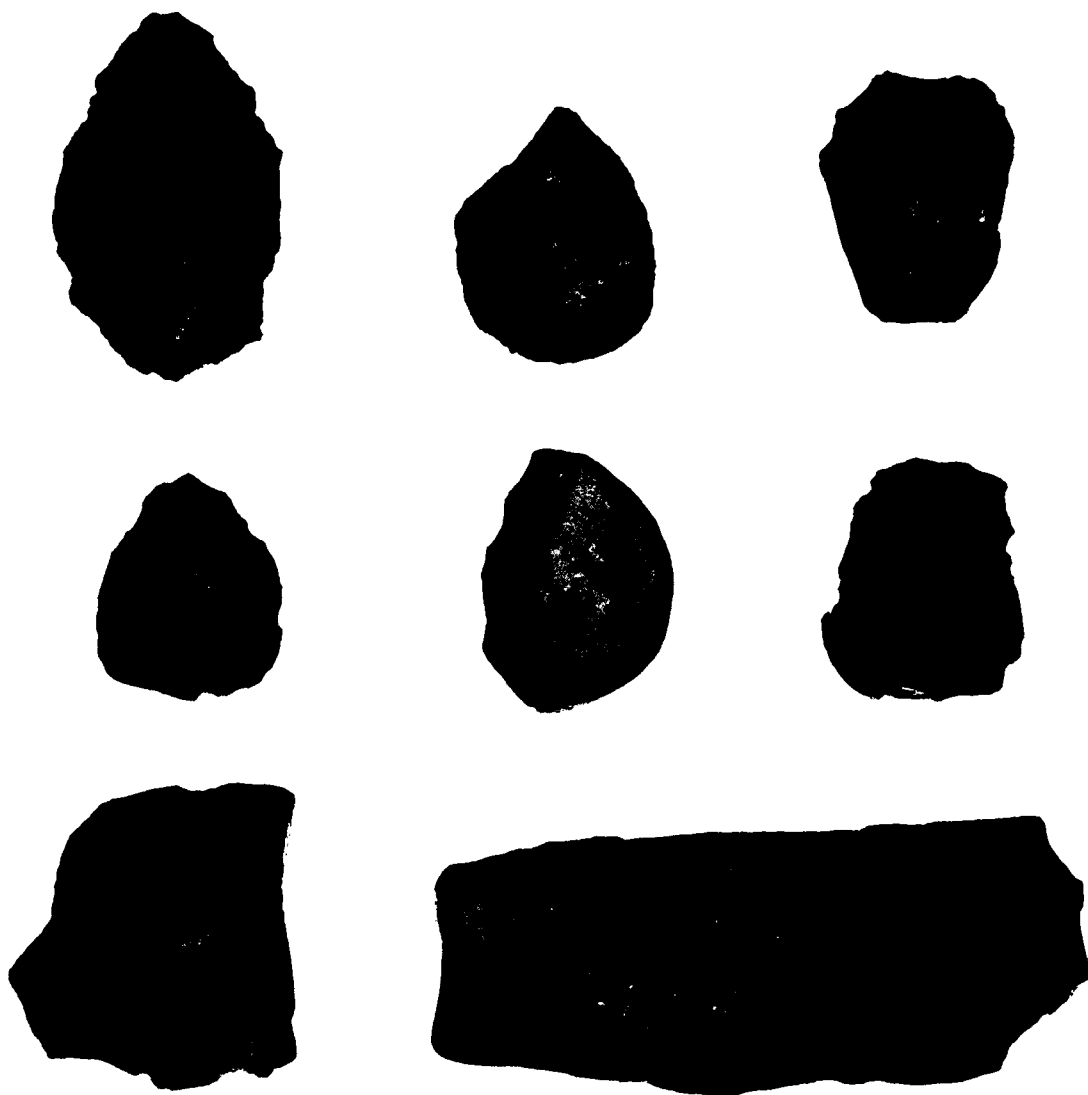


Plate 14. Unifaces.



**A**



**B**

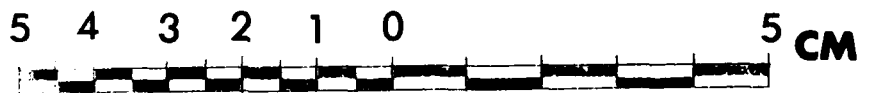


Plate 15. Picks.

**A**

**B**



**C**



**D**

**E**

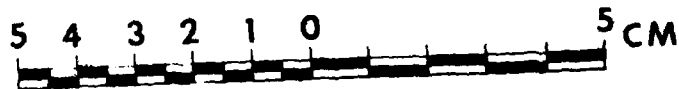


Plate 16. Axe Type 1(A,B), Type 2(C) and Type 3(D,E).

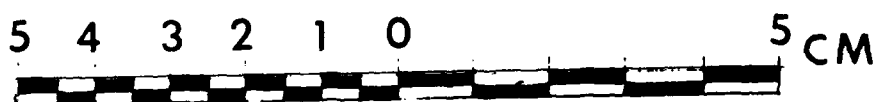


Plate 17. Celts.

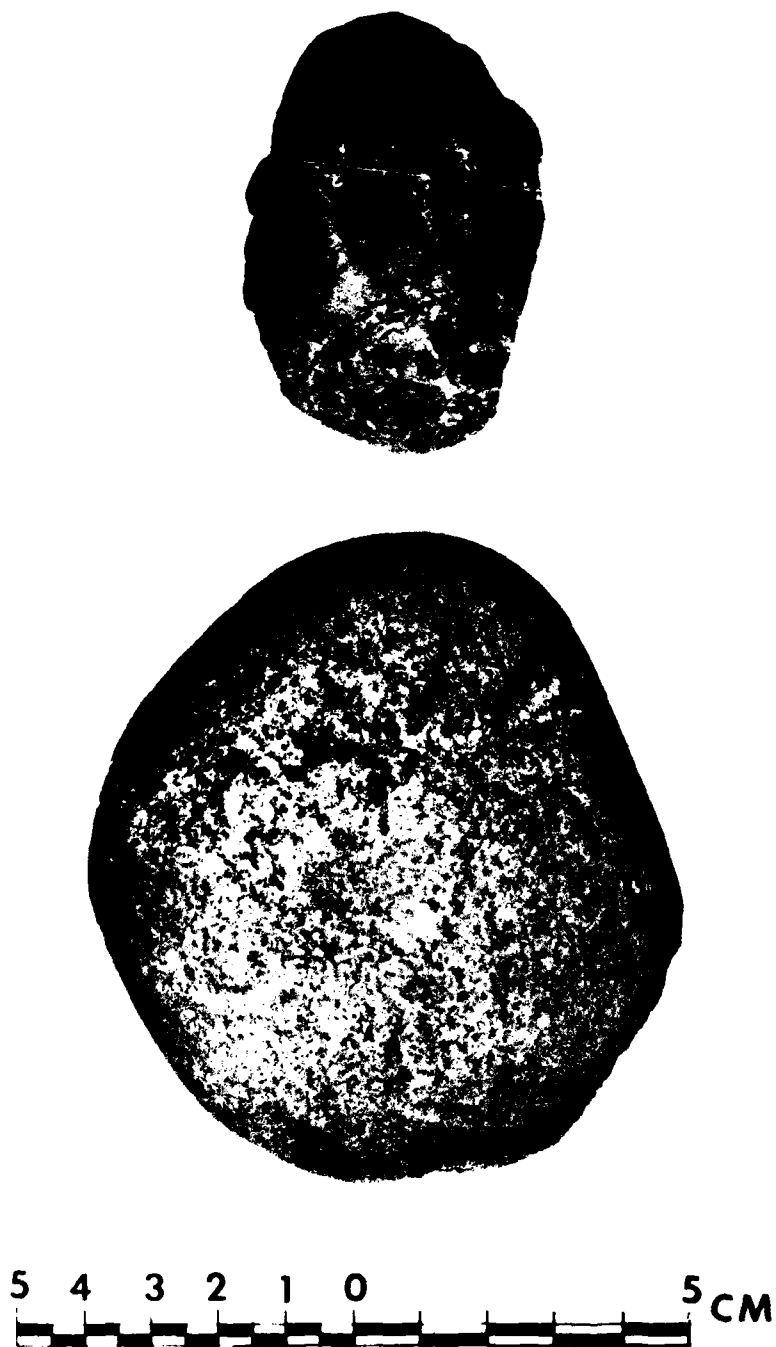


Plate 18. Hammerstones: A) flint nodule, B) pitted river cobble.



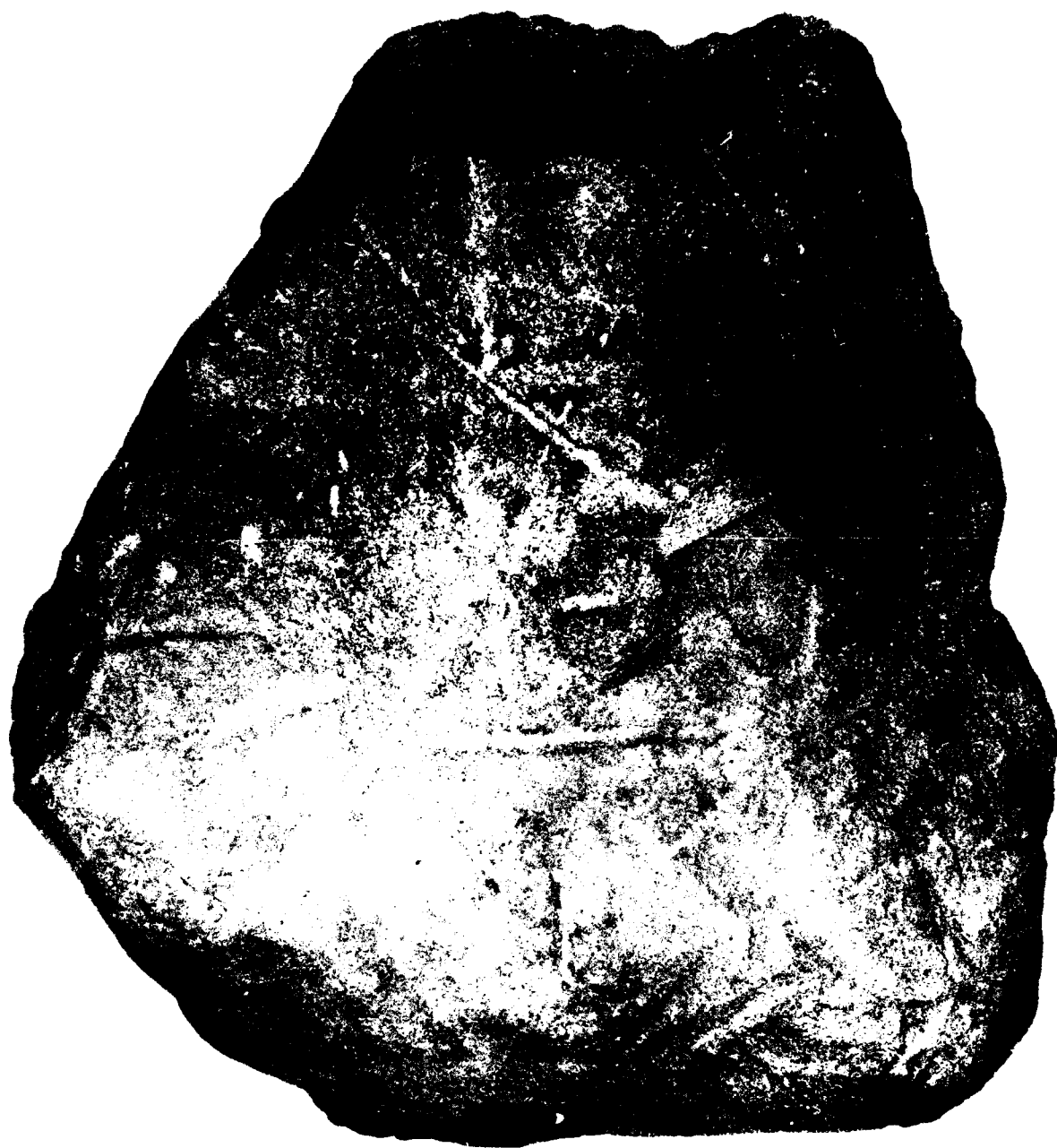


Plate 19. Metate.

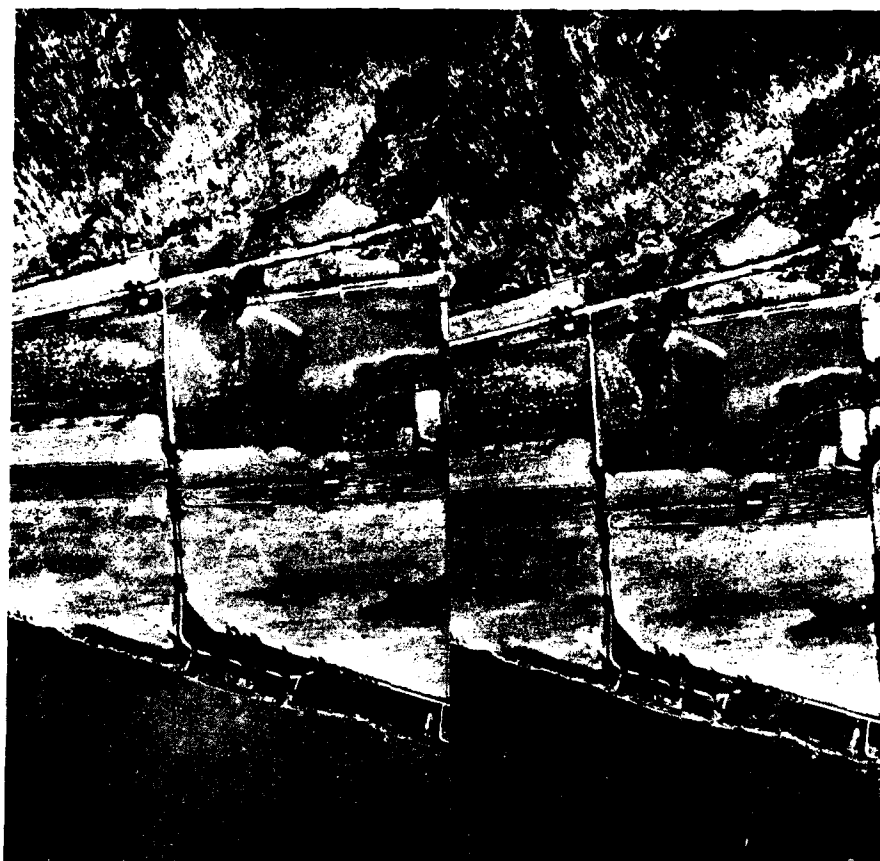


Plate 20. Stereo B/W photograph of project area north of the Gallipolis Locks and Dam.



Plate 21. Stereo B/W photograph of the project area at the Gallipolis Locks and Dam site.